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CLINICAL PROCEDURES

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The *Clinical Procedures Manual* was developed as a guide for agencies as they develop their own policy manual. To the best of our knowledge, this manual reflects current regulations and practices. However, it cannot be considered absolute and universal. The information in this manual must be considered in light of your organization.

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INTRODUCTION & INSTRUCTIONS

The Clinical Procedure Manual was developed as a guide for home health care and hospice clinicians. To the best of our knowledge, it reflects current regulations and practices. However, it cannot be considered absolute and universal. The information in this manual must be considered in light of your organization's clinical programs.

The author and publisher disclaim responsibility for any adverse effects resulting directly or indirectly from the use of this procedure manual, from any undetected errors, and from the user's misunderstanding of the text.

The author and publisher exerted every effort to ensure any procedures, recommendations, and illustrations used in this text were in accordance with current regulations, recommendations, and practices at the time this manual was published.

Please note that any references to specific products and/or manufacturers' names are intended to be used as examples. These references should not be interpreted as product endorsements.

HOW TO USE THIS MANUAL

Clinical Procedures

Each procedure contained in this manual is organized in the same manner. The **Purpose** of the procedure is identified. The next heading is **Applies To.** This is available for agencies to identify the disciplines that may complete the procedure and to qualify those positions with descriptor such as "deemed competent" or specifically trained. If certifications or special credentials are needed, it can be clarified here. This is followed by a list of the **Equipment/Supplies** needed to complete the procedure. The **Procedure** section provides the actual process for carrying out the procedure and is often followed by **Documentation Guidelines**. Many of the procedures have **Pediatric Considerations** identified for the agency that serves all age groups. The manual is not intended to cover all of the specific needs of the pediatric client and family. A box below the policy number indicates policies with Pediatric Considerations. Finally, any **Related Procedures** are indicated at the end of the policy. Other procedures have **Special Considerations** to help clarify the steps and unique needs of certain clients.

Clinical Competencies

Competency evaluation forms have been developed for many of the procedures. The template has been added so that additional competencies can be developed using the same format. This tool can be used to meet Joint Commission requirements for demonstrating competency. Agencies that delegate specific procedures to home health aides may tailor these forms to

demonstrate how competency is evaluated. The initial home health aide competency testing skills are not included in this manual. The manual was developed for the clinician with the flexibility to tailor the procedures as needed.

Some of the procedures are more of a guide to care and management of situations or illnesses. The actual care of the individual client will be dependent on their clinical status and their physician orders. These guidelines offer a format for education and training as well as a consistent approach to certain illnesses or complications.

General Comments

Please note: Certain procedures which require additional training, i.e. mechanical ventilation or certain infusion therapy procedures, should be indicated within the "Applies To" section. Related Procedures are then identified, followed by a detailed listing of the equipment and supplies needed. Finally, the actual steps of the procedure are explained.

This manual does contain general information regarding infection control and universal precautions procedures. However, further direction or additional information can be found in your agency's infection control policy manual.

Glossary/Abbreviations

Lists of key definitions and standard abbreviations have been included for your information and to avoid confusion. These listings can be found in the Reference Section.

E-Book

This manual is also available on CD. Feel free to customize and revise this manual to meet your agency's needs, in keeping with the copyright instructions. Instructions for installing the CD can be found in the e-book section of this manual. If you need instructions for customizing the text to meet your needs (how to search/replace, etc.), please refer to the user's manual which came with your word processing software.

The manual is being sent with a CD so that agencies may tailor individual procedures or the entire manual. If the procedures are tailored to reflect agency, state, and client specific guidelines, the procedure may become part of the care plan in the client record and/or home chart. The sections are system specific and allow agencies to insert procedures developed in their own agency.

APPLICATION OF TED HOSE (ANTIEMBOLISM HOSE)

PURPOSE

- To promote venous blood return to the heart by maintaining pressure on capillaries and veins.
- To prevent development of venous thromboembolism (VTE), a disorder that includes deep vein thrombosis (DVT) and pulmonary embolism.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Elastic stockings in proper size and length (two pairs recommended)
- Tape measure
- Talcum powder (optional)

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Use the manufacturer's guidelines and tape measure to measure for proper fit of stockings. Compare with the manufacturer's sizing chart. Support is inadequate if stockings are too large; blood flow is impeded if stockings are too small.

   Note: Stockings are easiest to apply in the morning.
3. Assist the client to a sitting or supine position. If the client has been standing, have him/her sit in chair with legs elevated for 15 minutes prior to applying stockings.
4. Turn elastic stocking inside out.
5. Place the client's toes into foot of stocking and slide stocking over the client's foot, covering the toes. This facilitates application. Powder may be applied to the client's legs and feet to assist with application. Check for client sensitivity to powder before use.
6. Position the stocking over the foot and heel, making sure the heel is centered in the heel pocket.

7. Pull a few inches of the stocking up and around the client's ankle and calf. Continue pulling the stocking up the leg using alternating front and back pulls.
8. Smooth out any wrinkles and slide the stocking up the client's leg until it is completely extended. Wrinkles, creases, and binding reduce circulation and impede venous return. Make sure toes are visible through the toe inspection area, if present.
9. Instruct the client or caregiver:
    a. To check and straighten stockings periodically.
    b. Not to roll down stockings.
10. Instruct the client that stockings should be removed for one hour daily or as instructed by the client's physician for assessment of circulation and to retain skin integrity.
11. To remove, pull stockings from the top down and inside out. Make sure the client's ankle and foot are supported.
12. Wash stockings according to manufacturer's directions. Alternate between two pair of stockings.
13. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Time stockings applied and removed.
- Size/length of stockings applied.
- Skin color, temperature, sensation, capillary refill, and pulse in lower extremities.
- Any client teaching and client response.
- Amount of edema or swelling noted.
- Pain or discomfort.

RELATED PROCEDURES

Application of Pneumatic Compression Device

PNEUMATIC COMPRESSION DEVICE

PURPOSE

- To promote venous blood return to the heart by maintaining pressure on capillaries/veins.
- To prevent development of venous thrombosis secondary to stagnant circulation.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

None

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Slide vinyl surgical sleeve over each calf or apply Velcro-secured vinyl compression hose by placing open hose under thigh and leg with knee opening site under popliteal area.
3. Establish the hose by overlapping the edges and securing the Velcro straps.
4. Turn on power.
5. Monitor the cycles.
6. Instruct the client to remove the compression device twice daily for 20 minutes.
7. Observe the skin for sweating beneath the cuff, skin breakdown, or pressure injury.
8. If client has leg ulcers or is high risk for skin breakdown, this treatment may not be best for them.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Size and length of hose.
- Skin color temperature, sensation, capillary refill.
- Pulse in lower extremities.
- Time on and off.
- Teaching and response

RELATED PROCEDURES:

None

MEASURING AND RECORDING EDEMA

PURPOSE

- To assess client for fluid retention.
- To assess cardiopulmonary status.
- Provide a uniform and objective approach to measuring central, peripheral and abdominal edema.
- To evaluate the effect of diuretics.
- To evaluate the client adherence to prescribed medications, diet and activity.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Tape measure (optional)

ASSESSMENT GUIDELINES FOR CIRCULATORY OVERLOAD

- Crackles, wheezes on auscultation, dyspnea, mental status
- Changes or deviation from baseline
- Adherence to medications, diet, and activity
- Weight

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Inspect areas of skin for edema:
    a. Dependent edema in:
        - Feet.
        - Ankles.
        - Sacrum.
        - Scapular areas.
        - Arms.
        - Hands.

3. Assess pedal edema by measuring above bony prominences:
    a. Dorsum of the foot, above the ankle and mid-calf.
    b. Assess edema in hand between the joints.
    c. Assess abdominal girth by measuring at the naval area.
4. Assess color, location, and shape of area.
5. Palpate areas of edema, noting mobility, consistency, and tenderness.
6. Assess for pitting edema. Press edematous area firmly with thumb for 5 to 10 seconds. Remove thumb; note extent of indentation and how long it lasts.
7. Measure edema on a scale of 1+ to 4+ edema. You may use a tape measure.
    a. 1+ edema = 2 mm induration.
    b. 2+ edema = 4 mm induration.
    c. 3+ edema = 6 mm induration.
    d. 4+ edema = 8 mm induration.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Skin assessment and condition.
- Location and amount of edema noted.
- Time required to return to normal.
- Other clinical signs of circulatory overload.

RELATED PROCEDURES

None

BLOOD PRESSURE

PURPOSE

- To determine the integrity of the client's heart, arteries, and arterioles.
- To evaluate the client's vital functions.
- To aid in the evaluation of the treatment regime.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Stethoscope
- Sphygmomanometer
- Thigh cuff (if client is obese)
- Small cuff for pediatric or very small clients

Note: Ideally, the width of the cuff should be 40% the circumference (or 20% wider than the diameter) of the midpoint of the limb on which the cuff is to be used. Length of the enclosed bladder should be approximately twice the recommended width.

PROCEDURE

Arm Blood Pressures:

1. Wash hands. Refer to the Hand Washing procedure.
2. Support arm at heart level, palm up.
    a. If arm is not supported, the client may perform isometric exercises which can elevate blood pressure by 10%. Placement below heart level gives a false low reading.
3. Remove constrictive clothing, palpate brachial artery, position the cuff one inch above antecubital space, and center bladder of cuff above the artery. Avoid taking a blood pressure on an arm with IV or arm injury, or on a client with a dialysis shunt and/or mastectomy.
4. Client should sit up with feet on the floor, legs uncrossed, and arm extended at heart level.
5. Wrap cuff evenly and snugly. A loose-fitting cuff gives a false high reading.

6. Place stethoscope over artery in antecubital space.
7. Inflate cuff to 30 mm Hg above the point at which brachial pulse disappears. Release bulb slowly.
8. Note the point on the manometer when the first clear sound is heard. This indicates systolic pressure.
9. Note the point at which a muffled sound occurs. This is recommended by the American Heart Association (AHA) as an indicator of diastolic pressure in children.
10. Note the point at which the sound disappears. This is recommended by the AHA as an indicator of diastolic pressure in adults.
11. Inform the client of the reading, if appropriate.
12. Wash hands. Refer to the Hand Washing procedure.

Leg Blood Pressures:

1. Wash hands. Refer to the Hand Washing procedure.
2. Assist the client into the prone position. If unable to assume position, assist to supine position with knee slightly flexed.
3. Remove constricting clothing.
4. Locate popliteal artery behind the knee.
5. Apply large cuff one inch above artery around the posterior aspect of the middle thigh.
6. Follow steps 5 to 12 of above procedure using popliteal artery.
7. Systolic pressures in legs may be 10 to 40 mmHg higher than in upper extremities because of pressure for blood to reach the peripheral vessels.
8. Diastolic pressure will be the same or lower than in the arm.
9. Note systolic and diastolic pressures.
10. Assist the client to a comfortable position.
11. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Results.
- Clinical assessment information pertinent to the blood pressure reading.
- Site used and activity level of client prior to reading as appropriate.
- Actions taken, including MD contact if indicated to report results.

RELATED PROCEDURE

None

MONITORING CLIENT WITH PACEMAKER AT HOME

PURPOSE

- To assess client's ability to monitor pulse accurately.
- To assess for signs and symptoms of pacemaker dysfunction.
- To assess client's knowledge of pacemaker function and when to notify physician.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Clock or watch with second hand
- Electrodes (if doing telephone ECG)
- Telephone and ECG transmitter (if ordered)
- Pacemaker magnet (if ordered by physician)

SIGNS AND SYMPTOMS OF PACEMAKER DYSFUNCTION

Dizziness, weakness, altered level of consciousness, irregular pulse, low blood pressure, decreased urine output, or fatigue.

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Establish a daily routine check. Battery failure can be identified in early stages by routine monitoring of pulse.
    a. Have client sit on the side of the bed.
    b. Count pulse for one full minute before arising.
    c. Record on daily record.
3. Perform a general assessment of the client, including:
    a. Condition of site of pain, redness, swelling, or fluid accumulation.
    b. Chest pain or return of dyspnea, dizziness, edema, or slow pulse.
    c. Client and/or family adaptation to presence of implanted device and monitoring function of device.

4. With the client in a resting position, check pulse for a full minute. Note a rate that falls below the rate set by pacemaker. A rate decreased by 5-10 beats may indicate a lowered generator function necessitating battery replacement.
5. If ordered by the physician, place a pacemaker magnet over the generator before taking the pulse. This verifies pacemaker function by creating a fixed mode. The pulse rate will reveal pacemaker function when the pulse is taken.
6. If the client has an ECG transmitter and electrodes, the pacemaker may be checked by a telephone ECG. To perform a telephone ECG following a call to a pacemaker clinic service:
    a. Place and secure electrodes on the client's wrist.
    b. Turn on the transmitter.
    c. Position the telephone over the output part of the transmitter.
    d. Listen for a beep as heart sounds are transmitted.
    e. Place magnet over generator if requested.
    f. Disconnect and restore equipment.
7. Contact physician if any of these symptoms are noted:
    a. Sudden slowing or increasing in pulse rate.
    b. Irregular pulse.
    c. Pain or redness over site (new pacemaker).
8. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Pulse rate.
- General assessment findings including any reported pain, dizziness, pulse changes, edema or shortness of breath.
- Pacemaker function.

RELATED PROCEDURES

None

USE OF HOLTER MONITOR AT HOME

PURPOSE

- To monitor heart rate and rhythm over continuous period of time.
- To record symptoms or activities that may affect heart rate or rhythm.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Adhesive electrodes and lead wire
- Magnetic recorder with cassette tape
- Shoulder strap or belt clip
- Pencil and paper for recording

PROCEDURE

1. The Holter monitor is used to obtain continuous tracing of a client's pulse during normal activity.
2. Explain to client that this will be in place for 24 hours.
3. Place electrodes at both positive and negative poles as directed by laboratory staff.
4. Assist client to apply straps that secure the monitor in place.
5. Connect the electrodes to the recorder.
6. Instruct the client to record any pain, abnormal sign or symptom or activity stating the exact time this occurred. (This assists in evaluating the finding seen on the ECG tape). Client instructions while wearing the monitor:
    a. Sleep on back, not abdomen.
    b. Do not shower during the study.
    c. Maintain normal activity level, record.
    d. Call for instruction if an electrode falls off.
7. Instruct the client to take the equipment and notes to the clinic as directed.

RELATED PROCEDURES

None

MANAGEMENT OF AUTOMATIC IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (AICD)

PURPOSE

To maintain implant function to provide continuous monitoring of the heart rate and rhythm and deliver counter shocks to the heart in the event there is life threatening recurrent ventricular dysrhythmias.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

None

SPECIAL CONSIDERATIONS

- Anxiety and neurological impairment can interfere with ability to process information. Repeated teaching sessions may be necessary.
- Local emergency medical services should be informed that the client has an AICD.
- Caregivers should be taught CPR if they are not already certified.

PROCEDURE

1. Assess the home for environmental interference. Instruct the client to move away from any device that causes the AICD to emit a beeping sound. ***(Household appliances and microwave ovens will not interfere with the device.)***
2. Assess emotional adaptation to the AICD.
3. Assess the effects of cardiac medications.
4. Instruct the client to lie down when the AICD discharges.
5. Instruct client to keep a diary of events resulting from each discharge and examine the diary each visit.
6. Review any activity restrictions with client and caregiver.
7. Instruct client not to wear tight clothing.
8. Instruct the client to wear a Medic-Alert bracelet at all times and keep information about the device in his/her wallet.

9. Instruct significant others to activate EMS and initiate CPR should cardiac arrest occur.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Teaching done and outcome of teaching.
- Condition of surgical sites and generator packet if applicable.
- Response to AICD shocks.
- Physical and emotional assessment data.
- Plans for future visits.

RELATED PROCEDURES

None

ADMINISTRATION OF OXYGEN

PURPOSE

- To prevent hypoxia.
- To promote comfort and breathing efficiency.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Oxygen supply source and delivery device. (Nasal cannula, oxygen mask, T tube, tracheostomy collar)
- Oxygen flow meter/gauges
- Portable cart for small cylinder, liquid oxygen portable unit, and cart
- Carrying shoulder cases or strap for tank or liquid oxygen portable unit
- Humidifier with tubing (permanent or disposable); adapters, if ordered
- Oxygen analyzer
- Cannula with extra on hand; selection for comfort and protection of skin and mucous membranes
- Reservoir cannula, if used
- Venturi or Bi-Flo mask, if ordered. (There are two types of masks – one for short term oxygen use and delivers oxygen concentrations from 40% to 60%. A plastic face mask used with a reservoir bag and a Venturi mask are capable of delivering high concentrations of oxygen.)
- Water-soluble lubricant
- Catheter for transtracheal devices, if used
- Extra delivery system supplies on hand
- Mild soap, warm water for cleansing delivery adjunct

SPECIAL CONSIDERATIONS

Oxygen is used conservatively in clients with chronic lung disease because high levels of oxygen may suppress breathing stimuli.

1. Signs and symptoms of hypoxia:
    a. Restlessness.
    b. Headache.
    c. Visual disturbances.
    d. Confusion or change in behavior.
    e. Increased respiratory rate.
    f. Increased heart rate.
    g. Elevated blood pressure.
    h. Shortness of breath (dyspnea).
2. Advanced symptoms:
    a. Decreased blood pressure.
    b. Decreased heart rate.
    c. Cyanosis
    d. Metabolic acidosis.
3. Chronic symptoms:
    a. Clubbing of fingers and toes.
    b. Right sided heart failure.
    c. Thrombosis.
    d. Polycythemia (excess number of red blood cells).

PROCEDURE

1. Obtain orders from the primary care physician for:
    a. Type of oxygen therapy.
    b. Administration device and liter flow rate or concentration.
    c. Arterial blood gas values, if available.
    d. Respiratory therapy consultation (as ordered).
2. Discuss the indications, purposes and anticipated outcomes of oxygen therapy with the client and family.
3. Evaluate the client's oxygen needs:
    a. Prescribed flow rate or concentration.

   b. Desired portability.
   c. Humidity requirements.
   d. Continuous or intermittent use.
4. Select an oxygen delivery system:
   a. High-pressure cylinder.
   b. Oxygen concentrator.
   c. Liquid oxygen system.
5. Coordinate order and delivery of equipment and supplies with the vendor. Follow vendor and manufacturer instructions for equipment operation.
6. Teach or review oxygen safety precautions with the client and family:
   a. Do not smoke.
   b. Do not use oxygen near stove, space heater or heat source.
   c. Do not use electric blankets or heating pads.
   d. Do not use polyester or nylon bed linens or clothing. Instead, use all cotton bed linens and clothing to prevent static electricity.
   e. Make sure that all electrical equipment is properly grounded.
   f. Avoid the use of alcohol and oil-containing skin care products because they are flammable.
   g. Do not run oxygen tubing under clothes, bed linens, furniture, rugs, etc.
   h. Keep the oxygen container upright.
   i. Turn off the oxygen when it is not in use.
   j. Alert the local fire department and rescue squad about the use and storage of oxygen in the home.
7. Wash hands. Refer to the Hand Washing procedure.
8. Put on gloves or other personal protective equipment as needed to comply with standard precautions.

Nasal Cannula Administration

You may deliver up to 6L/minute and allow a range of oxygen concentration of 22-40%. Humidification of low-flow oxygen through nasal cannula is not considered essential and may be contraindicated because it supports bacterial growth.

1. Assemble regular cannula with prongs and tubing, cannula with Oxy-Ears, or cannula with nose pads around nasal prongs.
2. Place straight prongs into nares with smoother side against skin. Curve prongs downward into nares.

3. Place cannula tubing snugly around each ear and under the chin.
4. Adjust to fit securely under chin or by elastic around head. Pad tubing with gauze on face and ears as needed.
5. Apply natural or K-Y gel to nasal passages to prevent friction. (Use only water soluble products and not petroleum based. Petroleum products are combustible, not absorbed by the body, and difficult to clear from the mucosa).
6. Set flow rate and turn on oxygen supply.

Face Mask Administration

Four types of masks: Simple face mask, partial rebreather mask with reservoir bag, non-rebreather mask with reservoir bag, venturi mask used specifically to control oxygen concentration.

1. Assemble mask and tubing.
2. Select a mask that fits the client snugly and offers correct oxygen concentration.
3. Place pads around mask if face lacks supporting tissue or is edematous. Pad elastic straps with gauze for comfort.
4. Turn on oxygen flow to liters prescribed. If reservoir bag is attached, partially inflate it with oxygen. Oxygen flow must be at a level to prevent the bag from collapsing. (A tight fit prevents oxygen from escaping around the eyes or nose.)
5. Remove mask and use cannula when eating.
6. Change mask and tubing per agency policy and provide skin care to face.
7. Check equipment frequently. If a humidifier is attached maintain appropriate water level.

DOCUMENTATION GUIDELINES

- Type of oxygen delivery system used
- Prescribed flow rate
- Oxygen levels per blood gases or pulse oximetry
- Client baseline vital signs and ongoing parameters
- Teaching done with client and/or family

RELATED PROCEDURES

Suctioning-All, Pulse Oximetry, Arterial Blood Gas Sampling

PEDIATRIC OXYGEN ADMINISTRATION

PURPOSE

- To prevent hypoxia
- To provide comfort and breathing efficiency

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Pediatric mask
- Oxygen source
- Flowmeter
- Humidifier, if ordered (rarely used)

PROCEDURE

1. Obtain physician orders.
2. Explain purpose and rationale for mask to client and family.
3. Choose mask that fits child (Should cover the chin, mouth, and nose, but not eyes).
4. Adjust mask so that it fits snugly.
5. Secure with elastic strap.
6. Remove mask at frequent intervals for skin care if condition is stable.
7. Observe closely for changes.
8. *Oxygen mask may be frightening to the child.*

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type of oxygen delivery system used.
- Prescribed flow rate and concentration.
- The client's baseline and ongoing vital signs, including labs or oximetry readings.
- The client and/or families understanding of teaching.
- The content of the teaching.

RELATED PROCEDURES None

CLEANSING AND DISINFECTING OXYGEN EQUIPMENT

PURPOSE

- Infection control
- Promote health and safety of client

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Soap and water
- Paper towels
- Plastic bags
- Distilled water for humidifier

PROCEDURE

1. Rinse cannula or mask clean with water and dry with paper towel daily.
    a. Wash tubing daily. Hang in bathroom to dry. Store in clean plastic bag when not in use.
    b. Compressor filter must be cleaned regularly by rinsing thoroughly under running water, squeezing it dry and replacing. The frequency is determined by the dust in the environment, but should be rinsed at least weekly.
2. For clients receiving continuous oxygen therapy, replace cannula, mask, tubing and catheter weekly.
3. Soak reusable equipment in a disinfectant solution (commercial solution or 3:1 vinegar solution) for 10 minutes after rinsing. Rinse well and air dry.
4. Wipe cannula or mask with warm water and dry every day.
5. Store clean, dry articles in a plastic bag.
6. Wash filter in back of oxygen concentrator weekly with soap and water and rinse well. Dry and replace.
7. Clean humidifier container weekly with mild soap and water. Rinse well. If extras are not available, refill with distilled water after drying with a clean paper towel.

DOCUMENTATION GUIDELINES

- Date and time of cleaning and/or disinfecting
- Procedure followed
- Any changes

RELATED PROCEDURES

None

PULSE OXIMETRY

PURPOSE

- To perform a cost-effective and non-invasive measurement of arterial oxygen saturation.
- To have an immediate and ongoing way to assess client response to treatment.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Pulse oximeter
- Sensor (clip on or disposable adhesive sensor)
- Cutaneous sensor probe
- Portable oximeter for intermittent monitoring

ASSESSMENT CONSIDERATIONS

- Inaccurate oximetry readings can be associated with fever or hypothermia.
- Low blood pressure or low perfusion status, carbon monoxide poisoning or recent dye injection studies.
- Cold fingers give inaccurate readings.
- Blood pressure readings of less than 90 systolic may provide inaccurate results.
- Inadequate blood flow results in erroneous readings.
- Saturation on pulse oximeter is usually 2-4% higher than measure arterial oxygen saturation.
- Nail polish or artificial nails can distort readings.
- Use appropriate sensor probes – they are designated for fingers, toes, or earlobes (recent studies have shown finger probes are more accurate).

PROCEDURE

1. Identify client using two identifiers.
2. Wash hands. Refer to the Hand Washing procedure.

3. Identify monitoring site. The oximeter probe may be applied to the ear, finger, toe or bridge of the nose in adults and to the foot, wrist or hand in infants. For portable intermittent monitoring, the finger is used.
4. Explain the procedure and Purpose to the client.
5. Use acetone to remove nail polish.
6. Turn machine on and attach sensor to the identified monitoring site. Make sure the sensor probes are aligned directly opposite each other. *(*Oximeter sensors contain both red and infrared light emitting diodes and a photodetector. The photodetector registers light passing through vascular bed, the basis for microprocessor determination of oxygen saturation*).*
7. Using portable unit, place the oximeter on the client's finger. Turn machine on and wait for digital reading to appear. Document the reading and verify with vital signs and physical assessment of color, endurance, etc.
8. Assess for proper sensing of pulse and verify with the client's actual pulse. Clients with peripheral vascular disease, Reynaud's Syndrome, or cold hands may have difficulty obtaining readings.
9. Read saturation level on the digital readout monitor; evaluate findings with previous levels and oxygen changes.
10. Remove probe and turn off oximeter.
11. Wash hands. Refer to the Hand Washing procedure.
12. If monitoring continuous pulse oximetry, confirm that alarm limits are set appropriately for the client's current condition.
13. If the pulse oximeter alarms, assess the client's respiratory status and make sure sensors are connected properly.
14. Regularly check and document the oximeter reading and skin condition under the probe.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Monitoring site.
- Oxygen saturation results.
- Oxygen administration rate.
- Activity level at the time of testing.
- Any other pertinent findings.

RELATED PROCEDURES

None

COUGHING AND DEEP BREATHING EXERCISES

PURPOSE

- To clear the lungs, bronchi, and trachea of secretions and ventilation.
- To loosen secretions and promote more effective coughing (deep breathing).

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One to four pillows, depending on the client's comfort and posture
- Comfortable surface that can be slanted (hospital bed, tilt table, or chair)
- Glass of water
- Tissues and paper bag
- Emesis basin

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Perform respiratory assessment to determine areas of congestion.
3. Complete postural drainage and/or manual percussion and vibration as ordered by the physician. (See Postural Drainage procedure, and Manual Percussion and Vibration procedure).
4. Position the client in a high-Fowler's position, sitting on side of bed, or with head of bed elevated, as appropriate. Position pillows for support and comfort.
5. Instruct the client to take slow, deep breaths and push abdomen out upon inspiration. Place hands on client's chest wall to help him to direct air to the lower and peripheral areas of the lungs. This maximizes air distribution.
6. Instruct the client to inhale deeply through the mouth or nose, then to exhale through the mouth in three short huffs or coughs. An effective cough sounds deep and almost hollow. An ineffective cough sounds shallow and high pitched.
7. Have the client expectorate any sputum into tissues or emesis basin. If the client is unable to expectorate, suctioning may be required.
8. Repeat coughing sequence (steps 5 through 7) additional two or three times.
9. Proceed to "deep breathing" and position the client again as in step 4.

10. Instruct the client to inhale slowly and deeply, pushing abdomen out.
11. Instruct the client to exhale through pursed lips and to contract abdomen.
12. Begin doing the breathing exercises consistently for one minute at a time and rest for two minutes. Increase periods of exercise to ten minutes, four times each day.
13. Reassess respiratory status.
14. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date, time, and procedure performed.
- The client's ability to perform procedure.
- Sputum characteristics.
- The client's tolerance of procedure.
- Respiratory status at beginning and end of procedure.
- Instruction or teaching done.

RELATED PROCEDURES

Postural Drainage, Manual Percussion and Vibration

INCENTIVE SPIROMETRY

PURPOSE

Incentive spirometry is used in conjunction with coughing and deep breathing exercises; especially important in clients with underlying pulmonary diseases because of risk for postoperative pneumonia. Clients who have difficulty with incentive spirometry include those who are confused, malnourished, or cognitively impaired; and those who lack the necessary motor skills.

Devices used for incentive spirometry provide a visual incentive to breathe deeply. Some are activated when the client inhales a certain volume of air; the device estimates the amount of air inhaled. Others contain plastic floats, which rise according to the amount of air the client pulls through the device when breathing in.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Flow-oriented incentive spirometer or volume-related spirometer

PROCEDURE

1. Position client in Semi Fowler's or High Fowler's position.
2. Instruct client to place lips completely over the mouthpiece.
3. Instruct client to take slow, deep breath and maintain constant flow, like pulling through a straw. When maximal inspiration is reached, client should hold breath for 2 – 5 seconds, then exhale slowly.
4. By identifying target on the spirometer, the client can visualize the goal and progress.
5. Repeat as client tolerates until goals achieved.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Any changes in the respiratory assessment.
- Client progress toward goals.

RELATED PROCEDURES

None

POSTURAL DRAINAGE

PURPOSE

Client assumes various positions to facilitate the flow of secretions from various parts of the lung into the bronchi, trachea and throat so they can be cleared more easily.

To provide gravitational clearance of airway secretions from specific bronchial segments by using different body positions.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One to four pillows, depending on the client's comfort and posture
- Comfortable surface that can be slanted (hospital bed, tilt table, chair)
- Glass of water
- Tissues and paper bag
- Emesis basin

PROCEDURE

1. Verify client identity.
2. Wash hands. Refer to the Hand Washing procedure.
3. Perform respiratory assessment to determine congested areas to be drained. Postural drainage should be done when the client's stomach is empty to avoid vomiting and aspiration of stomach contents.
4. Place the client in the appropriate position. Place pillows for support and comfort. (Refer to the end of this policy for suggested positions and procedures for each.) Bronchodilator aerosol medications may be taken prior to this procedure to reduce bronchospasm and decrease the thickness of sputum and mucous.
5. Instruct the client to maintain position for 10 to 15 minutes.
6. During this time, perform chest physiotherapy over the area being drained.
7. After 10 to 15 minutes, have the client sit up and cough, expectorating sputum into tissues. If the client is unable to cough, suctioning may be required. Refer to the Coughing and Deep Breathing Exercises procedure.
8. Assist the client to rest and take sips of water.

9. Repeat steps for all areas to be drained. Each treatment should not exceed 30 to 60 minutes.
10. Reassess respiratory status.
11. Wash hands. Refer to the Hand Washing procedure.
12. Client Positioning for Postural Drainage (see below).

DOCUMENTATION GUIDELINES

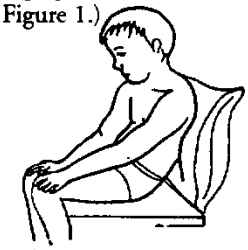
Document in the clinical record:

- Date, time, and procedure performed.
- Sputum characteristics.
- The client's tolerance of procedure.
- Respiratory status at beginning and end of procedure.

a. Apical Segments:

Right upper lobe by leaning against pillow at 30° angle. (See Figure 1.)

Figure 1



Left upper lobe by leaning client over folded pillow at 30° angle. (See Figure 2.)

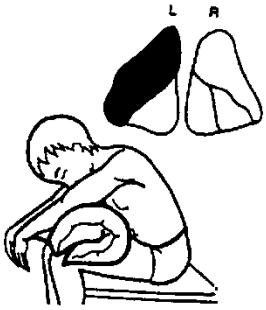


Figure 2

Note that both left and right apical segments can be drained at the same time by leaning client slightly forward and flexed over a pillow.

b. Anterior Segments:

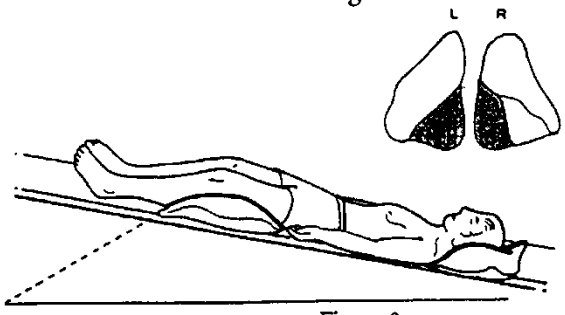


Figure 3

Right and left upper lobes in supine position with pillow under knees and a small pillow under head if needed. (See Figure 3.)

Right and left lower lobes in supine position with pillow under knees and a small pillow under head if needed. (See Figure 3.)

c. Lateral Segments:

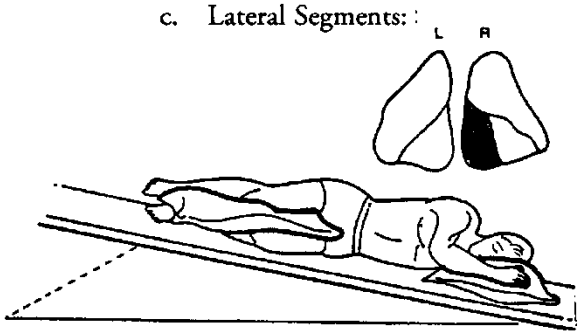


Figure 4

Right lower lobe in sidelying position on left side in Trendelenburg position at 30° angle with pillow under head and between legs. (See Figure 4.)

Left lower lobe in sidelying position on right side in Trendelenburg position at 30° angle with pillows under head and between legs.

d. Posterior Segments:

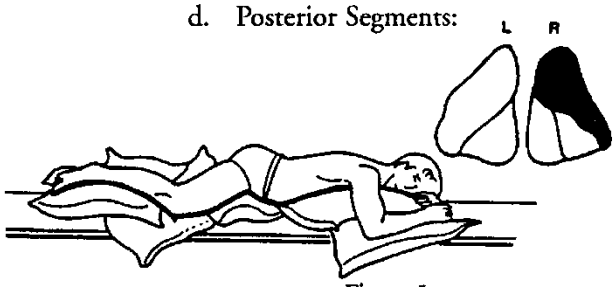


Figure 5

Right upper lobe in sidelying position on left side in flat position with pillows between legs and elevating right chest. (See Figure 5.)

Left upper lobe in sidelying position and flat on right side with pillows between legs and elevating left chest.

RELATED PROCEDURES

Coughing and Deep Breathing Exercises, Manual Percussion and Vibration

MANUAL PERCUSSION AND VIBRATION

PURPOSE

To loosen and clear secretions retained in the lungs and bronchi.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One to four pillows, depending on the client's comfort and posture
- Comfortable surface that can be slanted (hospital bed, tilt table or chair)
- Glass of water
- Tissues and paper bag
- Emesis basin
- Loose towel or single layer of clothing over chest wall
- Mechanical vibrator or percussion (optional)

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Perform respiratory assessment to determine areas of congestion.
3. Complete postural drainage as ordered by the physician.
4. Place the client in the appropriate position. Place pillows for support and comfort. *(Refer to Postural Drainage procedure for positioning.)*
5. Instruct the client to relax, take slow breaths, and exhale using abdominal, diaphragmatic, pursed-lip breathing.
6. Elevate bed to working level. Use proper body mechanics when performing. Avoid bending over when performing this procedure.
7. Begin percussion:
    a. Place cupped hands side by side on the chest wall over area to be drained. *Avoid air leaks by molding hands so that the entire portion of the hand makes contact with the chest wall.*
    b. Alternately clap chest; rapidly flex and extend wrists to generate a rhythmic popping sound. *Correct procedure technique should sound like a galloping horse.*

c. Clapping can be done at a moderate or fast pace. Ask if the client is experiencing undue pressure or stinging skin.

d. Perform for five to seven minutes without stopping or two to three minutes, alternating with vibration.

e. Do not percuss over the spine, sternum, liver, kidneys, or a female client's breasts. *This may cause trauma.*

8. Perform chest wall vibration:

a. Place hands flat against the chest wall over the area to be drained.

b. Have the client take a slow, deep breath through nose and apply gentle resistance to the chest wall as it rises.

c. Have the client briefly hold breath and exhale slowly through pursed lips. The chest wall should relax and fall.

d. During exhalation, gently push down and vibrate hands rapidly by tensing arm and shoulder muscles. Vibration gently shakes the mucus into the larger airways.

e. Repeat vibration three to five times over each chest segment. Have client perform coughing procedure. *(Refer to Coughing and Deep Breathing Exercises procedure, steps 5 through 7.)* Vibrate chest wall as the client coughs. The client should not inhale between coughs.

9. Assess the client's tolerance of this procedure.

10. Have the client expectorate any sputum into tissues or emesis basin. If the client is unable to expectorate, suctioning may be required.

11. Proceed to Coughing and Deep Breathing Exercises procedure.

12. Reassess respiratory status.

13. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date, time, and procedure performed.
- Sputum characteristics.
- The client's tolerance of procedure.
- Respiratory status at beginning and end of procedure.

RELATED PROCEDURES

Postural Drainage, Coughing and Deep Breathing Exercises

THE VEST AIRWAY CLEARANCE SYSTEM

Airway clearance system that allows for simultaneous treatment of all lung fields resulting in increased therapy in shorter treatment time and increased client compliance and satisfaction. This product is provided by Advanced Respiratory Inc., a Hill-Rom Company.

PURPOSE

- To maintain a clear airway.
- Decrease infections and fewer hospitalizations.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Inflatable vest (in size appropriate for client)
- Air hoses to connect to air pulse generator
- Wheeled carrying case

PROCEDURE

Clients using the vest receive individual training. Comprehensive instruction on equipment use and availability to technical assistance is provided by:

13. Introduce the device to the client
14. Review prescribed protocol.
15. Reinforce the role of airway clearance in disease management.
16. Promote independence to increase client compliance.

DOCUMENTATION GUIDELINES

- Date, time and procedure performed
- Length of treatment
- Sputum characteristics
- Client tolerance of the procedure

RELATED PROCEDURES

Manual percussion and vibration

TRACHEOSTOMY CARE

This includes a comprehensive plan that includes securing the tube, inflating the cuff, maintaining patency by suctioning and encouraging communication.

PURPOSE

- To prevent infection of tracheostomy site to minimize tracheal trauma.
- To maintain mucous membrane and skin integrity.
- To maintain airway patency by keeping the tube free of mucus buildup.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Tracheostomy suction supplies*
- Bedside table or workspace
- Towel
- Hydrogen peroxide
- Normal saline
- Three 4” x 4” gauze pads (or more if stoma has much drainage) *
- Four cotton-tipped swabs*
- Split 4” x 4” pad (pre-cut tracheostomy dressing) *
- Basin*
- Small brush*
- Tracheostomy ties
- Scissors
- Two pairs of disposable gloves*

***Note:** If tracheostomy care is to be done with sterile technique, these items must be sterile**.**

PROCEDURE

1. Wash hands and dry. Refer to the Hand Washing procedure. Don clean gloves.

2. Perform tracheal suctioning per tracheal suctioning procedure. This removes secretions and decreases the client's need to cough during the procedure.
3. Remove the soiled tracheostomy dressing prior to removing gloves. Discard dressing inside the glove with the suctioning catheter.
4. Assemble supplies using aseptic technique: If a Tracheostomy Care Kit is used, open the kit and spread the package on table.
    a. Open the gauze pads. Pour hydrogen peroxide on the first, pour normal saline on the second, and leave the last one dry.
    b. Open the cotton-tipped swabs. Pour hydrogen peroxide on one and normal saline on the other.
    c. Obtain a clean basin and fill it with approximately 3/4 inch of hydrogen peroxide.
    d. Place brush in basin.
    e. Prepare tracheostomy ties. Use scissors to cut to proper length.
    f. Do not recap the normal saline or hydrogen peroxide as they will be needed later in the procedure.
5. Apply gloves.

***Note:** For tracheostomy tubes with an inner cannula, follow procedure numbers 6 through 16. For tracheostomy tubes with no inner cannula, follow procedure numbers 12 through 16.

6. If the client is receiving oxygen therapy, remove the oxygen source.
7. Remove the inner cannula and place into basin. Hydrogen peroxide loosens secretions in the inner cannula.
8. If the client is on oxygen or mechanical ventilation, replace oxygen source on or over the tracheostomy site. This provides a supply of oxygen to the client and prevents oxygen desaturation.
9. Hold and clean the inner cannula using the small brush on the inside and outside of the cannula.
10. Pick up the inner cannula and hold over the basin. Rinse thoroughly with normal saline (pour over and through cannula) and shake off excess fluid.
11. Replace inner cannula and secure into place. Replace oxygen source.
12. Clean exposed stoma site and outer cannula areas with hydrogen peroxide-prepared, cotton-tipped swabs first. Follow by using 4 x 4 gauze pads. Clean in a circular motion from the stoma site outward. Be sure to clean under the tracheostomy tube faceplate.

13. Rinse the hydrogen peroxide from the tube and site using normal saline-prepared cotton-tipped swabs and 4 x 4 gauze pads following the same technique as in step 12.
14. Prepare and apply new tracheostomy ties. Do not remove the old ties until the new ties are secured.
    a. Measure ties so they are long enough to go around the client's neck twice. Cut the ends diagonally.
    b. If an assistant is present, have him or her hold the tracheostomy by the neck plate while clipping and removing the old ties. Slip the end of the new ties through the holder on the neck plate and secure ties. Slide both ends around the client's head and neck. Insert one tie through the second eyelet opening and pull snugly.
    c. Tie the ends securely in a double square knot, allowing one finger space in the tie. The tracheostomy should be secured without binding. The knot should be located on the side of the client's neck.
15. Changing ties with commercially-prepared tube holder with Velcro ties:
    a. Remove the old tracheostomy tube by opening the Velcro tabs.
    b. Thread one Velcro tab through the flange and secure it.
    c. Bring the other end of the tracheostomy tube holder around the back of the client's neck, thread the remaining Velcro tab through the flange and secure.
16. Place a split 4 x 4 dressing under the tracheostomy faceplate and ties.
17. Assess respiratory status and the client's tolerance of the procedure.
18. Recap hydrogen peroxide and normal saline bottles. Label the bottles with the date they were opened.
19. Clean reusable supplies in warm, soapy water. Rinse thoroughly and dry between two layers of clean paper towels. Store supplies in a loosely closed, clear plastic bag.
20. Remove gloves and discard disposable supplies according to the Agency Waste Disposal Policy.
21. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Character of respirations.
- Status of the tracheostomy site.
- Color, consistency and amount of secretions.
- Date, time and care provided and supplies used.

- The client's tolerance of procedure.
- Replacement of oxygen if required.

PEDIATRIC CONSIDERATIONS

- Since the air that the child breathes no longer passes through the nose and mouth, it is not warmed, moistened and filtered before it enters the lungs. To keep mucous liquid so that it is easy to remove, added moisture is needed. Increase fluid intake as well as humidifying the air the child breathes.
- Tracheostomy in children makes it harder for the child to communicate needs. Monitors and non-verbal modes of communication can be used.
- Trach secretions can irritate the skin around the tracheostomy and may cause infection. Was skin with soap and water and deep dry. Change trach ties often as indicated.
- Adult supervision is needed when the child is near water.
- Any smoke, aerosol sprays, powder or dust can irritate the lining of the child's trachea. Child should not share a room with anyone who is smoking.
- All people who care for the child with a trach must know how to suction and anyone caring for the child alone should know CPR.

RELATED PROCEDURES

Tracheal Suctioning

CHANGING A TRACHEOSTOMY TUBE

PURPOSE

- To change the client's tracheostomy tube.
- To prevent respiratory infection.
- To maintain adequate ventilation.
- To prevent any tracheal damage.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Tracheostomy care and suctioning supplies (see Tracheostomy Care procedure)
- Tracheostomy tube*
- 5 to 10 ml syringe
- Water-soluble lubricant
- Stethoscope
- Disposable gloves

***Note:** Use sterile tube as ordered by the physician.

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Suction the client per Tracheostomy Suctioning procedure.
4. Prepare new tracheostomy tube:
    a. Remove inner cannula from outer cannula and put obturator in place.
    b. Attach syringe to the end of cuff (for cuffed tube).
    c. Inflate cuff slowly to verify patency (for cuffed tube).
    d. Withdraw air (for cuffed tube).
    e. Lubricate end of tube.
    f. Place new ties on one end of tube.

g. Set aside.

5. Cut existing tracheostomy ties; hold tube in place with non-dominant hand.
6. Pick up new tube in dominant hand.
7. Gently remove existing tracheostomy tube and insert lubricated outer cannula with obturator into stoma. Insert downward and inward.
8. Following insertion, remove obturator, insert inner cannula and "lock" it into place. If the client is on a ventilator, reconnect within 30 seconds.
9. Secure the tube in place with clean ties and dressing per Tracheostomy Care procedure.
10. If the tube is cuffed, inflate after insertion with 5 to 10 ml of air. Inflate during inspiration, if possible.
11. Place stethoscope at the side of the neck just below the chin near the tracheostomy tube while injecting air into the cuff. Listen until you can no longer hear air going past the stethoscope. When the air sound stops, a seal has been formed and minimal occluding volume attained.
12. Check cuff seal for leakage by feeling for air escaping from the nose, mouth, or tracheostomy site.
13. Dispose of disposable supplies and clean reusable equipment according to the Agency Waste Disposal Policy. If tracheostomy tubes are to be reused, clean them in hydrogen peroxide and distilled water or saline, boil for 10 minutes, rinse, and dry thoroughly.
14. Remove gloves and wash hands. Refer to the Hand Washing procedure.
15. Wrap or cover clean supplies in a clean towel.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Cuff pressures noted and tracheal breath sounds.
- Suctioning performed and appearance of secretions.
- Tolerance of procedure.
- Client/caregiver instructions and compliance with procedure:
    - Date and time tracheostomy tube was changed.
    - Appearance of stoma site and drainage, if present.
    - The client's tolerance of procedure.
    - Respiratory.

PRINCIPLES OF CUFF MAINTENANCE

- Check tracheal breath sounds every 4 to 8 hours and note pressure of pilot balloon between fingers.

- Per agency policy, check cuff pressure and note minimum occlusive volume increases or decreases (usually done every 8 hours).
- If tube feedings or oral feedings are being given, assess secretions for tube feeding or food particles.

RELATED PROCEDURES

Tracheostomy Care, Tracheostomy Suctioning

ORAL PHARYNGEAL SUCTIONING

PURPOSE

- To maintain upper airway patency.
- To facilitate air exchange by removing or mobilizing oral secretions
- Decrease mouth odors and anorexia.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Suction machine and connector tubing
- Two pairs of disposable gloves
- Suction catheter (size 12-16 Fr. for adults; 6-12 Fr. for infants/children)
- Tap water (approximately 100 ml)
- Water soluble lubricant
- Clean basin
- Oxygen, if needed by client

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
    a. Assess respiratory status (rate and quality of respirations and breath sounds).
    b. Assess lips and mucous membranes for color, dryness, and secretions.
2. Assist the client into a Semi-Fowler's position, if appropriate. This facilitates suctioning and provides for maximum chest expansion. Cover chest with small towel.
3. Bulb syringe may be used to remove oral secretions rather than suction catheter. Prepare catheter and supplies. Fill basin with water.
4. Don gloves.
5. Turn on suction machine. Set vacuum regulator to appropriate negative pressure if machine is variable. *Elevated pressure settings increase the risk of trauma to the oral mucosa.*

6. Suction a small amount of water from the basin.
7. Insert the catheter into the mouth alongside of the tongue and slide down to pharynx (approximately 13 cm in adults). This stimulates coughing and removes secretions.
8. Apply suction for no more than 15 seconds by placing and removing thumb over control. Withdraw catheter gently, rotating it back and forth between thumb and index finger. Encourage the client to cough. Intermittent suction minimizes hypoxia and mucosal damage.
9. Place catheter tip in basin. Apply suction until connecting tubing is clear.
10. Allow time for a rest period and repeat the procedure until the airway is cleared. Limit total suction time to three to five minutes. This allows the client to rest and provides for reoxygenation. When secretions are removed, rinse mouth with water and mouthwash. Lubricate lips.
11. Empty suction contents into the toilet. Clean the suction bottle after each use or two to three times per day, if suctioning frequently.
12. Remove gloves and discard equipment according to the Agency Waste Disposal Policy. Clean the catheter if it is to be reused.

    Note: The catheter may be cleaned by rinsing first in warm, soapy water, then rinsing in clean water and drying thoroughly. Store in a clean, dry area.
13. Reassess the client's respiratory status.
14. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Breath sounds before and after suctioning.
- The client's tolerance of suctioning procedure.
- Odor, color, amount, consistency of secretions.
- Frequency of suctioning.
- Replacement of oxygen therapy as needed.

RELATED PROCEDURES

None

NASOPHARYNGEAL AND NASOTRACHEAL SUCTIONING

PURPOSE

- To maintain a patent airway.
- To facilitate air exchange by removing or mobilizing secretions from upper and lower airways.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Suction machine and connector tubing
- Gloves (2 sterile or 1 sterile and 1 disposable)
- Sterile suction catheter (size 12-16 Fr. for adult; 6-12 Fr. for child)
- Sterile normal saline or water (approximately 100 cc)
- Water soluble lubricant
- Sterile basin
- Oxygen, if needed by client
- Nasal or oral airway as indicated

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure. Assess the client's respiratory status, skin color and temperature, vital signs, color amount and consistency of secretions and family caregiver's ability to perform procedure.
2. Assist the client into a Semi-Fowler's position, if appropriate. Cover chest with a small towel.
3. Turn on the suction machine. Set vacuum regulator to appropriate negative pressure if machine is variable. Excessive negative pressure damages nasal pharyngeal and tracheal mucosa and can induce greater hypoxia.
4. Using sterile technique, open catheter and supplies. Put sterile water or normal saline into the basin. Sterile technique is utilized with deeper suctioning to prevent infection.
5. Don sterile gloves. If you use one disposable glove, apply it to the non- dominant hand and apply the sterile glove to the dominant hand. Sterility of the catheter

can be maintained with only one sterile glove, as the nondominant hand will not need to touch the catheter itself.

6. Attach the suction catheter to tubing while maintaining the catheter's sterility. Insert catheter tip into sterile water or normal saline and suction a small amount.
7. Measure catheter:
    a. *Nasopharyngeal Suctioning:* Measure catheter from nose tip to base of earlobe (approximately 16 cm in adults; 8-12 cm in older children; 4-8 cm in young children and infants).
    b. *Nasotracheal Suctioning:* Measure catheter from nose tip to earlobe and downward to thyroid cartilage or neck (approximately 20-24 cm in adults; 14-20 cm in older children; 8-14 cm in young children and infants).
8. Lubricate the tip of the catheter with water-soluble lubricant.
9. With your thumb off the control, insert the catheter through the nares using a slight downward slant. Have the client breathe slowly and deeply as the catheter is advanced.
    a. Advance the catheter as far as possible to the measured length.
    b. Inserting the catheter without suction minimizes the risk of mucosal damage and hypoxia.
    c. The epiglottis is open during inspiration and facilitates placement into the trachea.
10. Monitor catheter placement by observing for air flow through the catheter as the client breathes and/or coughs.
    a. Air should pass through the catheter as the client breathes.
    b. Coughing should also be stimulated.
    c. If the client gags or is nauseated, the catheter is probably in the esophagus.
11. Apply intermittent suction (10-12 sec.) by placing and removing the thumb over suction control as the catheter is gently withdrawn while rotating it back and forth between the thumb and index finger. Intermittent suction minimizes hypoxia and injury to mucosa.
12. Place the catheter into a basin of water or normal saline. Apply suction to rinse the catheter and connecting tubing.
13. Encourage the client to cough. Allow for rest periods and repeat this procedure until the airway is cleared. Limit suction time to 3-5 minutes. Reapply oxygen as needed.
    a. Coughing facilitates removal of secretions.
    b. Rest periods allow for rest and reoxygenation.

c. Repeated passes with the suction catheter assist in clearing the airway of excessive secretions and promotes oxygenation.

14. Remove gloves and dispose of equipment according to the Agency Waste Disposal Policy.

15. Reassess the client's respiratory status.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Breath sounds after suctioning.
- Respiratory status and changes in vital signs.
- Client's tolerance of suctioning procedure.
- Color amount consistency and odor of secretions.
- Catheter size.

RELATED PROCEDURES

None

TRACHEOSTOMY SUCTIONING

PURPOSE

- To maintain a patent airway.
- To facilitate air exchange by removing secretions from the trachea.
- To minimize tracheal trauma.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Suction machine and connector tubing
- One pair of disposable gloves*
- Suction catheter (size 12-16 Fr. for adult; 6-12 Fr. for child) *
- Normal saline or tap water*
- Water-soluble lubricant*
- Basin*
- Oxygen, if needed by client (Clean technique is used unless otherwise indicated)

***Note:** If suctioning is to be done with sterile technique, these items must be sterile. A newly formed tracheostomy requires sterile technique until the incision heals and the stoma is well-developed in order to prevent the introduction of microorganisms.

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Assess: status of tracheostomy, type of tracheostomy tube (metal, plastic, cuffed) breath sounds and quality of respirations, type of secretions and appearance of skin around tracheostomy site.
3. Place the client in High-Fowler's position, if appropriate. Cover chest with a small towel.
4. Prepare suction equipment and turn the machine on. Set the vacuum regulator to appropriate negative pressure, if the machine is variable. Elevated pressure settings increase risk of trauma to the tracheal mucosa.

5. Open catheter and supplies. Don gloves, and gown and mask as indicated. Pour water or normal saline into basin.
    a. *Sterile Technique*: Use sterile technique with sterile gloves and supplies as noted above.
    b. *Clean Technique:* Use clean technique with clean gloves and supplies as noted above.
6. Attach the catheter to tubing. Suction a small amount of water from the basin.
7. Lubricate the catheter tip with water-soluble lubricant.
8. With your thumb off the control, insert the catheter approximately five inches into tracheostomy. This minimizes the risk of mucosal damage and hypoxia and positions the catheter correctly.
9. Apply intermittent suction (10–12 sec.) by placing and removing the thumb over the control as you gently withdraw the catheter while rotating it back and forth between the thumb and index finger.
    a. Encourage the client to cough.
    b. Intermittent suction and rotation of catheter minimizes hypoxia and injury to mucosa.
    c. Coughing helps with the removal of secretions.
10. If secretions are difficult to remove, you may instill 3–5 ml of sterile normal saline into the tracheostomy.
11. Place the catheter into water or normal saline. Apply suction to rinse the catheter and connecting tubing.
12. Allow for a rest period (one to three minutes between passes) and repeat procedure until the airway is cleared.
    a. Limit suction time to three to five minutes. Reapply oxygen as needed.
    b. Rest periods allow for rest and reoxygenation.
    c. Repeated passes with the suction catheter help to clear the airway of excessive secretions and promote oxygenation.
13. Perform nasal and oral pharyngeal suctioning after tracheal suctioning is completed. This removes upper airway secretions and prevents additional introduction of microorganisms into the respiratory tract.
14. Remove gloves and dispose of equipment according to the Agency Waste Disposal Policy.
15. Reassess the client's respiratory status.
16. If clean technique is used, catheters may be reused. Clean in warm, soapy water. Rinse with water and dry thoroughly. Store in a clean, dry area.

17. Suction catheters are discarded after 24 hours or cleaned with 50% hydrogen peroxide solution and boiled for 10 minutes - air dried and stored in a plastic bag. Suction bottle is emptied and cleaned with hot soapy water every 24 hours. Suction tubing is cleaned with soap and water and air dried.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Respiratory status quality and rate of respirations.
- The client's tolerance of suctioning procedure.
- Color, amount, consistency and odor of secretions.
- Replacement of oxygen therapy as indicated.

RELATED PROCEDURES

None

APNEA MONITORING

Apnea monitors check for pauses (stops) of breathing lasting from 5 to 20 seconds.

PURPOSE

- To monitor a client with altered respiratory or cardiac status.
- To prevent hypoxemia or hypoxia due to alteration or cessation of respirations.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Apnea monitor
- Electrode and/or sensor belt
- Monitor reader

PROCEDURE

1. Verify client identity per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Apnea monitors look like a box with speakers, knobs, wires and a power cord. The wires connect to the person using the monitor. Most monitors are lightweight, weighing less than 4 pounds. Most apnea monitors can be plugged in or can run on battery. Frequently the monitor used in the home is a cardiorespiratory monitor and counts breaths and heartbeats that fall below a set number.
4. Set cardiac and respiratory limits on the apnea monitor. Settings will vary according to the client's age. The respiratory alarm setting should not be longer than 20 seconds. Alarms may sound for a pause in breathing of a pre-set time, for a heartbeat that is too low or too high, or for blood oxygen levels that fall below a set amount.
5. Check auditory and visual alarms to make sure they are functioning properly.
6. Connect the sensor belt and/or electrodes to client's chest. (Refer to manufacturer's directions for specific application.).
7. Assess the client's vital signs and compare them with the results obtained from the monitor. The results should be the same.

8. Instruct the client and caregiver in methods of responding to the monitor alarms:
    a. Observe monitor to see which alarm is going off. Respond to all alarms immediately.
    b. Observe and assess the client to make sure he/she is breathing. Check skin color.
    c. Stimulate with gentle shaking, vigorous shaking if needed to waken the client and begin breathing.
    d. Resuscitate if needed.
9. Caregivers should be trained in cardiopulmonary resuscitation (C.P.R.).

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date, time, frequency, and type of monitor alarms.
- Intervention required.
- The caregiver's ability to learn and care for the client on monitor.
- Instructions given to the client and caregiver.
- Physician notification of changes in the client's condition.

PEDIATRIC CONSIDERATIONS

- Monitor alarms if breathing stops for more than 20 seconds.
- Electrodes are in belt around chest.
- Change skin electrodes every 2 to 3 days or as needed if they become loose.

RELATED PROCEDURES

None

ARTERIAL BLOOD GAS SAMPLING

Invasive procedure not routinely done in the home setting.

PURPOSE

- To determine blood gases (pH, Pa_{Co2}, Pa_{O2} and C_{O2}) oxygenation status and acid-base balance.
- To assess effectiveness of oxygen therapy or ventilator support.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 3 ml syringe with 23–25-gauge needle*
- Rubber stopper
- Sodium Heparin solution 1000 u/ml
- One pair of disposable gloves
- Two alcohol prep pads
- (1-2) 2” x 2” gauze pad
- Cup or plastic bag with crushed ice
- Adhesive gauze pad
- Protective eyewear
- Label and laboratory requisition
- Container with lid for specimen transport

***Note:** You may use commercial blood gas kits with heparinized syringes, if available.

PROCEDURE

Pre-drawing Preparation:

1. Verify physician orders:

a. Verify the specific circumstances in which arterial blood gas sampling is to be performed. For example, if ABG sample is to be drawn after a certain therapy, find out how long after therapy.

b. Check the information in the chart for specific conditions that might indicate precautions. For example, is the client on anticoagulant therapy or is clotting time normal? Is the client comatose or combative? Does the client understand English?

2. Notify the proper personnel:

   a. Notify the blood gas laboratory technician at least 10 to 15 minutes in advance so the blood gas machine can be calibrated before receiving the specimen.

   b. Notify the courier that arterial blood gases are to be drawn.

3. Assess the client's condition (breathing pattern, previous therapy, ventilator settings, etc.). Document in the clinical record:

   a. Client's condition: is the client relaxed, apprehensive, cyanotic, feverish, etc.?

   b. Breathing pattern:

      - Is the client breathing at a normal rate and depth or hyperventilating?
      - If the client is on mechanical ventilation, are all the parameters set as ordered?
      - Has the client been disconnected from the ventilator for any reason within the last 10 to 15 minutes?
      - Has the client been suctioned in the last 15 to 20 minutes?
      - Has there been seizure activity?

4. Complete the blood gas laboratory slip with the appropriate information:

   a. The client's full name.

   b. The test to be run, e.g., pH only, PC_{O2}, P_{O2}, arterial blood gases, capillary blood gases, venous blood gases.

   c. The exact time the blood gas was drawn.

   d. The breathing rate. If the client is on mechanical ventilation, also indicate the model and:

      - Tidal volume.
      - Distending pressures (PEEP, CPAP).
      - Volume of dead space (if used).
      - Fractional concentration of inspired oxygen (FIO2).

e. If ordered soon after respiratory therapy treatment, note the time of therapy and the time since the client has received therapy.

f. The client's temperature for temperature correction and calculation of the oxygen saturation. Blood gases should not be drawn less than 15 minutes after any major change in the respiratory parameters or concentration of inspired oxygen.

2. Perform Allen's test:

   a. The Allen's test should be performed before each arterial puncture to the radial artery. This ensures adequate collateral circulation of the ulnar artery to the hand.

   b. Have the client close hand and make a very tight, firm fist.

   c. Apply direct pressure to both radial and ulnar arteries. (Preference should be given to the nondominant hand.) Hold the radius and the ulna in such a way as to apply firm pressure to the radial and the ulnar artery so that neither are perfusing to the hand.

   d. Instruct the client to open the hand. Release the pressure on the ulnar artery only and observe for redness in the ulnar region of the hand. Redness indicates collateral circulation.

   e. If the collateral circulation is not present, try the Allen's test on the other hand. If similar results occur, notify the physician. Make arrangements for an alternate source to obtain a specimen, as directed by the physician.

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Prepare heparinized syringe (if commercial blood gas kit is unavailable): Heparin coats syringe barrel and prevents specimen from clotting.
   a. Withdraw 0.5 ml of heparin solution into 3 ml syringe.
   b. Withdraw plunger to end of syringe.
   c. Eject all of heparin out of syringe barrel.
3. Don clean gloves.
4. Select radial site and palpate with fingertips. Select an area of maximal impulse for the puncture site.
5. Assist the client to hyperextend the wrist. This stabilizes the artery to assist with needle insertion.
6. Cleanse the area with an alcohol prep pad. Wipe from the center in a circular motion to the outside.
7. Place your finger on the wrist just above the chosen puncture site. This helps maintain the location of the artery.

8. With needle bevel up, insert at a 45-degree angle. Direct bevel proximally. Arterial flow increases with angle.
9. Watch for blood return in the needle hub and stop advancing needle. Blood return indicates successful puncture.
10. Slowly withdraw and allow 2 to 3 ml of arterial blood to fill the syringe. Slow withdrawal minimizes air bubbles in the syringe which can alter test results.
11. Place a 2” x 2” gauze pad or alcohol prep pad over the puncture site and withdraw the needle.
12. Apply pressure to the site and area just proximal for five minutes. If the client is receiving anticoagulant therapy or has a blood disorder, pressure must be maintained for at least 10 minutes or until bleeding has ceased. This minimizes bleeding and ensures adequate coagulation at site.
13. Assess site for bleeding and palpate artery below puncture site. Report any changes in pulse to the physician. Arterial blood flow may be altered if pulse quality has changed.
14. Cover site with adhesive gauze pad after bleeding has ceased. This absorbs any blood that might ooze from the site. Never leave a pressure bandage on for more than one hour.
15. Hold the blood-filled syringe with the needle pointed upward. Expel excess air bubbles from syringe. Air bubbles can falsely alter arterial oxygen and carbon dioxide pressures.
16. Place the end of the needle into a rubber stopper.
17. Remove gloves and discard supplies according to universal precautions protocol.
18. Wash hands. Refer to the Hand Washing procedure.
19. Place the labeled syringe in an ice-filled biohazard bag and attach requisition. If a cup is used, place the cup in a biohazard bag and attach requisition. Place specimen in container with lid. Deliver the specimen to the laboratory. This provides proper identification to minimize errors.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Cardiopulmonary status.
- Home ventilator settings.
- Oxygen liter flow.
- Body temperature.
- Length of time pressure applied after puncture.
- Tests required:
    - Specimen collection time and date.
    - Radial site used and condition of puncture site following procedure.

- Test results and action taken, if any.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

MECHANICAL VENTILATION (NEGATIVE OR POSITIVE PRESSURE VENTILATION)

PURPOSE

- To prevent hypoxia due to alteration or cessation of respirations.
- To provide uninterrupted ventilatory support.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Primary portable or stationary ventilator
  (volume or time cycled; positive or negative pressure)
- Backup ventilator
- Battery, battery charger, backup power source
- Suction apparatus (portable or stationary)
- Oxygen system (compressed tank, concentrator, or liquid system)
- Nebulizer for medication, humidification
- Pneumo belt, Numo-Suit, Pulmo-Wrap or chest shell of appropriate size (if using negative pressure ventilator)
- Manual resuscitator bag (Ambu bag), condenser, humidifier with connectors and adapters to be used with positive pressure ventilator and connected to client or ventilator circuit
- Ventilator accessories consisting of:
    - Client circuit assists with bacteria filter.
    - Humidifier with bracket and hose.
    - Tracheostomy flex tube.
    - Battery cables.
    - Alarm system.
- Ventilator tubing, connectors, and adapters
- Positive end expiration pressure (PEEP) valve and related supplies as needed
- Hose and connectors for negative ventilator and breathing apparatus

- Oxygen tubing, nasal cannula, oxygen analyzer, tracheostomy collar, or adapter as needed
- Suction catheters, tubing, receptacle of water, gloves
- Disinfectant solution and distilled water
- Spare tracheostomy tube and supplies, if appropriate
- Prescribed medications for nebulizer administration

PROCEDURE

Negative Pressure Ventilation (Negative Pressure ventilation is rarely used in home care except with certain neuromuscular conditions. It is less invasive than other ventilators and does not require intubation or tracheostomy.)

1. Wash hands. Refer to the Hand Washing procedure.
2. Place the client in a semi- or high-Fowler's position or position of comfort. You may place him in a sitting position in a wheelchair for mobility.
3. Assemble Pneumo belt, ventilator, and power source (negative pressure). Check equipment for proper functioning.
4. Follow manufacturer's instruction manual for complete information about the use of apparatus or ventilator.
5. Place bladder in the Pneumo belt corset smoothly and eliminate all wrinkles (use small, medium, or large size, depending on the client's size).
6. Position the hose to avoid kinking.
7. Connect the hose to the ventilator. Adjust settings as ordered.
8. Place the front section of the corset over the abdomen, just high enough to cover the lower ribs.
9. Center the back of the corset and attach the Velcro straps to ensure snugness while the bladder is deflated.
10. Check to make sure the hose connector is securely attached to the Pneumo belt.
11. Check respiratory volume.
12. Stays in corset may be removed for comfort.
13. Maintain support for the prescribed time; remove when appropriate.
14. Store bladder in a black, polyethylene bag large enough to lie flat. Avoid exposure to sunlight, heat, air pollution, or ozone.

To Use Pulmo Wrap

1. Place the client in supine or Low-Fowler's position.
2. Assemble Pulmo-Wrap, ventilator, and power source. Check equipment for proper functioning.

3. Follow manufacturer's instructions for using the wrap.
4. Apply wrap and secure all openings.
5. Connect hose to wrap and ventilator.
6. Adjust settings on ventilator and check for respirated volume. Maintain for prescribed length of time.

To Use Numo-Suit

1. Follow the same procedure for Numo-Suit as for Pulmo-Wrap, using the manufacturer's instruction manual.
2. Connect hose to the ventilator and wrap securely. Adjust setting on ventilator and check for respirated volume.
3. Place the client in high-Fowler's or sitting position.
4. Follow manufacturer's instruction manual for application, use, and care of chest shell.
5. Apply shell to chest snugly and fasten securely. Connect tubing to shell and ventilator.
6. Adjust the settings on the ventilator; check for respirated volume.

Positive Pressure Ventilation

1. Wash hands. Refer to the Hand Washing procedure.
2. Place the client in a semi-Fowler's position or position of comfort.
3. Assemble ventilator, power source, and backup power source. Check to make sure equipment is functioning properly.
4. Follow manufacturer's instruction manual for complete information about the use of this equipment.
5. Plug ventilator into electrical outlet and set volume control, mode of ventilation, "sigh" mode, "pressure limit" mode, breaths/minute, oxygen accumulator, pressure gauge, pressure limit, and sensitivity as prescribed by the primary care physician.
6. Fill reservoir of humidifier with distilled water. Connect tubing to inlet port from ventilator and outlet port from circuit and client.
7. Assemble ventilator circuit and attach to humidifier and client circuit. (If condenser is used for humidity, place between tracheostomy tube and exhalation valve.)
8. Check and drain all tubing moisture into receptacle, not back into the humidifier.
9. Attach ventilator tubing to outlet port of humidifier and ventilator airway connection. Attach client circuit tubing to inlet port of humidifier and

tracheostomy tube via
the adaptor.

10. Attach supplemental oxygen, if ordered by physician.
11. Monitor oximetry oxygen concentration.
12. Monitor all alarms. Change ventilator and client circuits daily to ensure proper alarm function.

Manual Ventilation

1. Administer air to the lungs through resuscitation or Ambu bag when needed, such as during suctioning, tracheostomy care, filling or changing the humidifier, draining condensation from client/ventilator circuit, or during power/ventilator failure.
2. When using resuscitation or Ambu bag, disconnect the ventilator circuit and connect the bag valve to the tracheostomy tube.
3. Squeeze the bag during inspiration if the client is breathing on his/her own. If not, squeeze the bag as soon as it is connected to tracheostomy tube.
4. Squeeze the bag in a quick, smooth motion while observing the client's chest. Release bag when the chest rises.
5. Allow time for the client to exhale air. Repeat at a 1:2 ratio for the air to enter and exit lungs. This cycle may be repeated 10 to 14 times/minute.
6. Connect supplemental oxygen to the oxygen reservoir if needed.
7. Reconnect the ventilation circuit to the client when manual resuscitation is completed.
8. Store Ambu bag near the client at all times.

Cleaning and Disinfecting Equipment

1. Wash ventilator, client circuiting, and other reusable parts in a detergent solution and rinse thoroughly every one to three days.
2. Completely submerge parts. Soak in disinfectant solution or white vinegar and distilled water solution (1:3 dilution) for 15 minutes. Rinse thoroughly.
3. Allow the parts to dry on clean paper towels or hang over towel rack. Store them in a clean towel or plastic bag when dry.
4. Test parts for leaks or for the need to be replaced before or during washing.
5. Wipe exterior of ventilator with alcohol solution.
6. Change ventilator filters as recommended by the manufacturer.

DOCUMENTATION GUIDELINES

- Cardiopulmonary status – to include lung sounds, vital signs, oxygen levels
- Ventilator settings

- Oxygen liter flow
- Client tolerance

RELATED PROCEDURES

Administration of Oxygen, Tracheostomy Care, Tracheostomy Suctioning, Arterial Blood Gas Sampling, Pulse Oximetry

MANAGEMENT OF HOME VENTILATORS

PURPOSE

- To provide guidelines for home health nurses and other caregivers who care for ventilator dependent clients.
- To promote safety in management of high tech care in the home setting.
- To promote self care in the home.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

GUIDELINES

- Caregivers who are willing and able to help with client care needs are necessary for discharge to the home setting.
- Individual manufacturers of home ventilator equipment have handbooks for recommendations on safe use in the home.
- Prior to discharge, the home care team including the home vendor and respiratory therapist participate in establishing the plan.
- All family and care giving staff must be familiar with ventilator alarms and how to appropriately respond.
- The client/caregivers are instructed in how to use the manual resuscitation bag.
- A backup electrical or battery source should be available and local utility companies notified of the client home needs.

EQUIPMENT/SUPPLIES

- Ventilator and associated circuits, filters, and tubing
- Heated humidifier or cascade
- External 12-volt battery and cord
- Ambu bag
- Disinfectant (as defined in infection control guidelines and policy)
- Air compressor and tubing for aerosol treatments (see separate procedure)
- Tracheostomy equipment and supplies

- Communication aids
- Equipment as needed for bowel, bladder and personal care such as hospital bed, wheelchair, commode and/or bedpan

PROCEDURE

Assessments to be performed at start of care and at regular intervals during client care:

1. Clinical assessment including observation of respiratory effort, color, secretions (amount color and odor) vital signs, client concerns, anxiety level, sleep patterns, skin condition, nutrition and fluid status, neuro status, and signs and symptoms of infection or mechanical concerns.
2. Assess oximeter readings, blood gases and electrolytes as indicated.
3. Assess ventilator settings and effectiveness of plan of care.
4. Perform a safety check on the equipment:
    a. Tubing: Drain water from tubing, check connections, and check tubing for leaks or cracks. Change as needed.
    b. Evaluate whether cleaning and changing procedures are followed per plan.
    c. Assess mode of delivery:
        - **Control Mode:** (CM) Preset volume at a fixed rate. Client does not initiate breaths or changes in rate.
        - **Assist Control:** (AC) Allows client to initiate breaths and rate varies as client is able to initiate. Each breath is delivered at the same tidal volume (preset).
        - **Intermittent Mandatory Ventilation:** (IMV) Preset number of breaths per minute by ventilator, but client can also breathe with no assistance from machine at his own tidal volume.
        - **Synchronized Intermittent Mandatory Ventilation:** (SIMV) Ventilator senses client breath and synchronizes mechanical breath at same time.
    d. Assess Alarm Settings:
        - **Low Pressure:** If pressure falls below this limit, alarm will sound. This happens when client becomes disconnected from machine.
        - **High Pressure:** If pressure goes above set limit, alarm will sound. Can be caused by excessive secretions, coughing, kinked tubing, and mucous plugs.
    e. Assess other machine settings, oxygen settings, and oxygen source.
5. Information must be present in the home that includes troubleshooting guidelines, emergency phone numbers, and guidelines for emergency intervention.

6. Back-up systems are in place in case of mechanical or electrical failure.
7. Caregivers should be trained in cardiopulmonary resuscitation (CPR).

DOCUMENTATION GUIDELINES

Document in clinical record:

- Ventilator settings or any changes made. Note pressures and pressure limit settings.
- Assessment findings of cardiopulmonary assessment.
- Any teaching done with family or client.
- Any procedures performed such as oximetry readings, blood draws, or suctioning.
- Care coordination activities including contact with physician and/or other members of health care team.
- Any other pertinent findings or concerns.

PEDIATRIC CONSIDERATIONS

Types of ventilators used for infants and children fall into two categories:

- Invasive/noninvasive positive pressure ventilators and noninvasive negative pressure devices.
- Positive pressure ventilation supports the respiratory system by pushing air into the lungs and holding pressure for a pre-determined time per physician orders and then permitting pressure levels to return to baseline. Positive pressure can be delivered via tracheostomy tube or mask and can be provided by volume controlled, pressure controlled equipment.
- Equipment is available to promote mobility of the child and routines as normal as possible.

RELATED PROCEDURES

Oxygen Therapy, Postural Drainage, Pulse Oximetry, Suctioning

CARE OF CLIENT WITH PLEURX PLEURAL CATHETER

PURPOSE

- To drain fluid from chest.
- To manage pleural effusions
- Provide client comfort and improve respiratory status.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

This is a specially designed catheter placed in the chest to drain effusions. It is not used for traditional chest drainage such as pneumothorax or post-operative drainage.

Pleurex catheter is a soft flexible tube that conforms to the pleural space. A valve on the catheter simplifies drainage and prevents leakage of air or fluid. Kits provided for home use. Items included in kit listed below.

EQUIPMENT/SUPPLIES

- 1 plastic vacuum bottle (500 ml) with attached drainage line
- 1 Procedure pack containing the following items:
    - 1 self adhesive dressing
    - 1 pair of gloves
    - 1 valve cap
    - 1 emergency slide clamp
    - 4 gauze pads (4 x 4)
    - 1 foam catheter pad
    - 3 alcohol pads (70% isopropyl alcohol)

PROCEDURE

To be done every one to two days per physician orders:

1. Verify client identity per agency policy
2. Obtain drainage kit and set up area at bedside.
3. Wash hands.
4. Remove the dressing over the catheter and assess area around catheter for redness, swelling or drainage.

5. Open the drainage kit bag and follow manufacturer's instructions.
6. Pick up the bag that contains the vacuum bottle. There is a green vacuum indicator
on the top of the bottle. The indicator should be down. If the indicator is up, discard the bottle.
7. Open the vacuum bottle bag and remove the bottle with the attached drainage line. Keep the access tip sterile. Check to make sure the tip of the drainage line has a plastic sleeve. If the sleeve has fallen off, start again with a new drainage kit.
8. Remove the paper from the drainage line and uncoil the tubing. Put the tip of the drainage line on sterile area.
9. Open the alcohol pads but do not remove from pouches.
10. Put on sterile gloves.
11. Open the pouch containing the valve cap, and let the cap fall onto the sterile area.
12. Connect to the drainage bottle.
    a. Close the clamp on the drainage line.
    b. Remove the cover from the access tip on the drainage line.
    c. Remove the cap from the catheter valve in one hand, clean around the valve opening with alcohol pad.
    d. While holding the base of the catheter valve in one hand, clean around the valve opening with alcohol pad.
    e. Pick up the drainage line and insert the access tip securely into the catheter valve. You will hear and feel a click when the access tip and valve are locked.
13. Open the slide clamp on the green rubber tube at the top of the vacuum bottle.
14. Hold the bottle with one hand while you push down on the white T-plunger to puncture the foil seal. This will start the vacuum action in the bottle.
15. Release the clamp on the drainage line to begin drainage. Fluid will flow into the vacuum bottle.
16. Flow of the drainage can be controlled by squeezing the clamp on the drainage tube.
17. When drainage stops, or the 500ml bottle is filled, squeeze the clamp on the drainage line completely closed. Drainage usually takes 10-15 minutes.
18. No more than 1000ml should be removed at one time.
19. To disconnect, remove the access tip from the catheter valve. Clean the valve with an alcohol pad.

20. Place the new cap over the valve and twist it clockwise until it snaps into the locked position.
21. Clean the skin around the catheter site with an alcohol pad, and place the foam catheter pad around the tube.
22. Wind the catheter into loops and place over the foam pad.
23. Cover with gauze pads.
24. Remove gloves.
25. Apply the self-adhesive dressing over the gauze pads.
26. With a pair of scissors, cut the tubing off of the vacuum bottle.
27. Empty the bottle into the toilet, and discard the bottle.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Character of the drainage: color, consistency and viscosity
- Amount of drainage.
- Client tolerance including pain, dyspnea.
- Condition of skin around the tube.

When to call the doctor:

- A fever of 100.4° or higher.
- Shortness of breath or chest pain
- Drainage changes in color or becomes thick.
- Drainage is cloudy or smells bad.
- Redness, swelling, tenderness, or warmth around the catheter exit site.
- Fluid leaks where the tube exits the body.

RELATED PROCEDURES

Chest tubes

MANUAL VENTILATION WITH AMBU BAG

- Manual resuscitation can be used during an emergency, when disconnected from ventilator, before suctioning or if there is a mechanical failure. Used with room air unless oxygen percentage ordered.
- When using a hand-held resuscitator, gastric distension may occur from forcing too much air into stomach. If vomiting occurs, remove mask, and clear airway - restarting ventilation as soon as possible.
- Keep resuscitator available at the bedside when client requires mechanical ventilation.
- Teach family/caregiver how to use the Ambu bag.

PURPOSE

- To manually ventilate client when off ventilator and unable to breathe independently.
- To promote oxygenation until able to breathe independently.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Hand held Ambu bag
- Cuffed face mask or trach adapter
- Oxygen source, if needed
- Oxygen tubing
- Gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Explain procedure to client.
3. Connect to oxygen by attaching one end of tubing to flow meter adapter and one end to the Ambu bag.
4. If trach tube in place, suction prior to connecting bag.
5. If no trach tube, check airway for obstruction before connecting to Ambu bag.

6. If situation is an emergency, call 911 and begin manual breathing; if client has no pulse begin CPR.
7. If client does not have a trach tube, place mask over nose and mouth - use dominant hand to ventilate by compressing the bag.
8. Slowly compress bag every 5 seconds and allow passive exhalation and re-expansion.
9. Observe chest rise and fall to determine effectiveness of compressions.
10. Observe client color, comfort level.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure and circumstances around use.
- Client condition and tolerance of procedure.
- Color, lung sounds and any problems noted such as distention.

RELATED PROCEDURES

None

CHEST TUBE MAINTENANCE IN THE HOME

PURPOSE

- To remove fluid or air from chest cavity.
- To restore negative pressure and allow lung re-expansion.
- To promote effective ventilation.
- To promote comfort and manage recurrent pleural effusions or other conditions that could be managed in the home setting.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

As the technology improves and becomes more widely disseminated, more clients with a variety of conditions will be candidates for home chest drainage. There are a variety of products that can be and have been used in the home setting. Some of the products allow for intermittent drainage, and some are for continuous drainage or suction.

In all situations, agency policy and manufacturer instructions will be followed when providing care. This is a guide for the observation of clients with chest tubes, and are being cared for at home.

ASSESSMENT/OBSERVATION GUIDELINES

- Physician orders define the treatment, product and purpose for the chest tube. Orders will clarify whether the drainage or suction is intermittent or continuous.
- A key to successful chest drainage is a patent tube. Tubes must be kept free of clots, kinks or other obstructions.
- Consult physician orders and agency policy prior to "stripping or milking" chest tubes.
- Determine orders for whether tube is to be clamped or not.

Focused Nursing Assessments

- Examine the tube: respiratory distress or respiratory failure may be related to the tube becoming occluded and drainage blocked. Examine the tube from chest wall to drainage container.
- Check dressing at tube site to assure that it is dry and intact. If dressing is wet with pleural fluid, it needs to be seen by physician.

- Target nursing assessment to the respiratory system.
    - Symmetry in breath sounds. If sounds are louder on the side without the tube, fluid or air may be accumulating on the treated side.
    - Percuss the chest. Fluid collections will result in a dull percussion note; a pneumothorax will return a hollow sound.
    - If fluid is suspected, have client lie down and change positions to see if drainage increased.
    - Ask the client to rate dyspnea on scale of 1 to 10 using 1 as no breathing difficulty and 10 maximum difficulty. Increasing dyspnea may indicate accumulation of fluid or air in the chest. If the client has Pleurx catheter, this would indicate a need to actively drain the chest.
    - Ask about the pain and note the rate and depth of respirations. Accumulation of air or fluid and inflammation can be very painful. Guarding and shallow respirations may indicate increased pain.
- Any evidence of increased fluid or air accumulating in the pleural space that is not resolved by repositioning or drainage should be reported immediately.
- Observe for changes in amount of drainage; significant increases or decreases should be reported.
- Keep drainage systems below level of client chest.

EQUIPMENT/SUPPLIES

- Chest drainage system
- Suction source and set up
- Gloves
- Sterile water
- Sterile saline
- Funnel tape
- Sterile gauze sponges

PROCEDURE

1. Put on gloves and connect drainage system to chest tube and suction source.
2. Connect the tubing from the client to the tubing entering the drainage collection bottle or chamber.
3. Keep the connector ends sterile.
4. Adjust the suction flow regulator until there is bubbling noted in suction control chamber.

5. Assessment criteria:
    a. Assess amount of drainage in drainage bottle.
    b. Check for bubbling in suction chamber.
    c. Check for movement in water seal chamber with respirations.
    d. Strip chest tubes if drainage slows or stops (per orders).
    e. Check chest tube site to determine that seal is tight.
    f. Check temperature daily or as ordered to identify complications.
    g. Observe for signs of tension pneumothorax or hemothorax (indicate that air or blood is entering the chest cavity and causing increased pressure).

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Suction type.
- Amount of drainage, color.
- Client vital signs, breathing sounds, mental status, tolerance of procedures and chest tube.
- Contact with physician; order changes.
- Procedures such as "stripping" the tubes.

RELATED PROCEDURES

None

CPAP: CONTINUOUS POSITIVE AIRWAY PRESSURE

PURPOSE

- To provide low flow pressure into airway to hold airway open.
- Prevent tongue from obstructing airway.
- Treat client with respiratory distress.
- Treat sleep apnea.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT

- Nasal mask
- Nasal pillows or face mask
- Permanent marker
- CPAP machine

PROCEDURE

1. Verify physician order.
2. Verify client identity.
3. Wash hands. Refer to Hand Washing procedure.
4. Position machine so tubing can easily reach client electrical outlet.
5. Connect oxygen tubing, if ordered.
6. Have client wash face to remove facial oils and achieve better fit.
7. Applying nasal mask:
    a. Place the nasal mask so the longer straps are located at the top of the mask.
    b. Have the Velcro facing away from you and thread the four tabs through the tabs on the top and sides of the mask.
    c. Pull the straps through the slots and fasten them using the Velcro.
    d. Place the mask over the client's nose and position the headgear over his/her head.

e. Gradually tighten all straps on the mask until a seal is obtained. (this does not have to be tight to obtain a seal).

f. Use the marker to mark the straps so that it is not necessary to fit the mask each time.

8. Applying nasal pillow:

a. Place the headgear around the client's head and use Velcro straps to achieve the proper fit. Once the straps are in place, remove headgear without undoing the straps.

b. Attach the nasal pillow to the headgear by wrapping the Velcro around the tubing.

c. Place the assembled headgear on the client and position the nasal pillows for comfort.

d. Attach the shell strap across the shell and adjust until there is a seal in both nostrils.

9. Applying face mask:

a. Hold the mask against the client's face and position headgear over the head.

b. Using the Velcro straps, adjust until there is a seal and no leaks are present.

c. Connect the flexible tubing to the mask and turn on flow.

SPECIAL CONSIDERATIONS

- If the mask does not fit properly, the client may complain of dry or sore eyes. Adjust the mask so there are no leaks.
- May use a humidifier if complains of dryness or burning in the nose and throat.
- Instructions with pictures will be provided with the equipment to assist the client/caregiver in applying device.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- CPAP settings.
- Length of time client was on CPAP.
- Client tolerance of procedure.
- Any complications or concerns.

RELATED PROCEDURES

None

BIPAP: BILEVEL POSITIVE AIRWAY PRESSURE

BIPAP is similar in function to CPAP. It is a non-invasive form of therapy for sleep apnea. CPAP can only be set to a single pressure that remains constant. BIPAP machines have two pressure settings: the prescribed pressure for inhalation and a lower pressure for exhalation. This allows the client to get more air in and out of lungs.

PURPOSE

- To provide low flow pressure into open airway.
- Prevent tongue from obstructing airway.
- Treat client with respiratory distress.
- Treat sleep apnea.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Nasal mask
- Nasal pillows or face mask
- Permanent marker
- BIPAP machine

PROCEDURE

1. Verify physician order.
2. Wash hands per Hand Washing procedure.
3. Position machine so tubing can easily reach client electrical outlet.
4. Connect oxygen tubing if ordered.
5. Have client wash face to remove facial oils and achieve better fit.
6. Set the breath-timing feature (measures the number of breaths per minute client should take; if time between breaths exceeds limit, the device will force a breath by temporarily increasing the delivered airway pressure.
7. Apply nasal mask:
    a. Place the nasal mask so the longer straps are located at the top of the mask.

b. Have the Velcro facing away from you and thread the four tabs through the tabs on the top and sides of the mask.

c. Pull the straps through the slots and fasten them using the Velcro.

d. Place the mask over the client's nose and position the headgear over his/her head.

e. Gradually tighten all straps on the mask until a seal is obtained. (This does not have to be tight to obtain a seal.)

f. Use the marker to mark the straps so that it is not necessary to fit the mask each time.

8. Applying nasal pillow:

a. Place the headgear around the client's head and use Velcro straps to achieve the proper fit.

b. Once the straps are in place, remove headgear without undoing the straps.

c. Attach the nasal pillow to the headgear by wrapping the Velcro around the tubing.

d. Place the assembled headgear on the client and position the nasal pillows for comfort.

e. Attach the shell strap across the shell and adjust until there is a seal in both nostrils.

9. Applying face mask:

a. Hold the mask against the client's face and position headgear over the head.

b. Using the Velcro straps, adjust until there is a seal and no leaks are present.

c. Connect the flexible tubing to the mask and turn on flow.

SPECIAL CONSIDERATIONS

- If the mask does not fit properly, the client may complain of dry or sore eyes. Adjust the mask so there are no leaks.
- May use a humidifier if complains of dryness or burning in the nose and throat.
- Most of the devices come with either a humidifier or an optional attachment.
- Instructions with pictures will be provided with the equipment to assist the client/caregiver in applying the device.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- BIPAP settings.
- Length of time client was on BIPAP.

- Client tolerance of procedure.
- Any complications or concerns.

RELATED PROCEDURES

CPAP

MANAGEMENT OF DIABETIC HYPERGLYCEMIA

Hyperglycemia happens when there is too much sugar in the blood. Causes of hyperglycemia include missing doses of insulin or glucose lowering medicine, eating too much, infection, illness, increased stress and decreased activity. Untreated hyperglycemia may lead to an emergency condition called ketoacidosis. If hyperglycemia continues for long periods of time, damage to nerves, blood vessels, and other organs may occur. Hyperglycemia does not cause symptoms until glucose levels are significantly elevated (above 200 mg/dl).

PURPOSE

To identify and treat a high blood sugar level.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Reagent strips to test urine for ketones; i.e., Ketostix
- Equipment to perform blood glucose level test

PROCEDURE

Note: It is important to follow the parameters and orders of the primary care physician or nurse practitioner when responding to a hyperglycemic incident.

High Blood Glucose Level (more than 180 mg/dl)

1. Assess the client for symptoms, which may include:
    a. Increased urination.
    b. Increased thirst.
    c. Feeling weak or tired.
    d. Blurred vision.
    e. Weight loss.
    f. Slow healing cuts and sores.
    g. Vaginal and skin infections.
2. Perform blood glucose level monitoring according to procedure. Instruct the client to:

- Follow the meal, medication, and activity plans properly.

- If appropriate, follow sick day guides as given by the primary care physician or nurse practitioner.
- Test urine for ketones as ordered by physician.
- Repeat blood glucose level every 4 hours until within established normal limits.

Very High Blood Glucose Level (over 350 mg/dl)

1. Assess the client for symptoms, which are the same as for high blood glucose level, but with:
    a. Loss of appetite
    b. Nausea, vomiting.
    c. Abdominal pain.
    d. Dehydration (dry mouth and skin).
    e. Fruity, acetone breath.
    f. Deep, rapid breathing.
    g. Drowsiness/restlessness.
    h. Ketones in urine.
    i. Ketoacidosis, hyperosmolar coma.
2. If any of the above symptoms are present:
    a. Check the blood sugar.
    b. Call doctor if blood sugar is more than 300 mg/dl.
    c. Test ketones per physician orders.
    d. If the client is unconscious, call the emergency number to get help immediately.
3. Administer additional insulin as directed.
4. Instruct the client to drink only fluids without sugar (tea, broth, or diet soda) often.
5. If condition remains the same or worsens, instruct the client to go to the hospital.
6. Prevention guidelines to be reviewed with client/caregiver:
    a. Take medications as directed.
    b. Follow meal plan and dietary guidelines.
    c. Follow the exercise program.
    d. Check blood sugar levels regularly.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Blood glucose level.
- Results of urine tests for ketones.
- The client's symptoms.
- Actions taken and results.
- Insulin/fluids given.

RELATED PROCEDURES

Blood Glucose Monitoring, SubQ Injections/Insulin Administration

MANAGEMENT OF DIABETIC HYPOGLYCEMIA

Hypoglycemia (low blood sugar) occurs when there is too much insulin and not enough glucose in the body. Hypoglycemic reactions are sometimes called "insulin reactions". Hypoglycemia can only occur if the client takes insulin or an oral diabetes medication. Diabetics managed with diet and exercise alone do not develop hypoglycemia.

Causes of hypoglycemia include: missing meals, more exercise than usual, eating later than usual, taking too much medication and drinking alcohol. Most people feel symptoms of hypoglycemia if the blood sugar falls below 70 mg/dl.

PURPOSE

To immediately identify and treat a low blood sugar level.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Home Health Aides with training

TREATMENT

Routine 15 –Recommended to Treat Low Blood Glucose

10. When feeling symptoms of hypoglycemia, do a self test.
11. If the number is too low, eat or drink 15 grams of carbohydrates.
12. Wait 15 minutes and test blood sugar again.
13. If the number is still too low, eat or drink another 15 grams of carbohydrates.
14. Wait 15 minutes and test again. If necessary, eat or drink another 15 grams of carbohydrates.
15. If blood glucose remains too low after three treatments, call physician or 911.
16. Examples of food/drink containing simple sugars (15 grams of carbohydrate):
    a. Two or three glucose tablets.
    b. One ½ cup orange or apple juice or soft drink.
    c. One cup milk.
    d. ½ cup regular soft drink (not diet).
    e. One tablespoon of honey or corn syrup.
    f. 6 small sugar cubes.
    g. 6 hard candies or 8 to 10 jelly beans.

***Note:** 15 grams of carbohydrate will relieve most symptoms.

h. Instruct the client to take another 15 grams of carbohydrate if he/she still has symptoms after 10 to 15 minutes.

Left untreated, hypoglycemia (low blood sugar) can be dangerous. Clients are instructed to always carry some type of carbohydrate with them, particularly when they are driving. Symptoms include:

- Feeling weak, shaky or lightheaded.
- Sweaty or clammy skin.
- Feeling irritable or confused.
- Having a rapid heart rate (pulse).
- Numbness or tingling lips.
- Feeling hungry.
- Headache, blurred vision.

EQUIPMENT/SUPPLIES FOR SEVERE REACTION

- Glucagon 0.5mg to 1.0 mg (if ordered)
- Syringe
- Alcohol Prep Pad
- Equipment to perform blood glucose level test

PROCEDURE

1. Assess the client for symptoms, which may include:
    a. Shakiness and nervousness.
    b. Sweaty, cold, and clammy skin.
    c. Sudden hunger.
    d. Rapid heart rate.
    e. Feelings of weakness or feeling lightheaded.
    f. Blurred or double vision.
    g. Headache.
    h. Tingling or numb lips or tongue.
    i. Nausea.
    j. Nightmares or crying out during sleep.
2. If the client is conscious, perform blood glucose level monitoring according to procedure.

3. Instruct the client to eat one of the simple sugars listed for a mild reaction, but use up to twice the amount indicated.
4. If the client becomes unconscious, call the emergency number.
5. While waiting for emergency help to arrive:
    a. Rub a thick form of sugar (Monogel, CakeMate, or Insta glucose, if available) on the inside of the client's cheek or under the tongue; OR
    b. Inject glucagon as directed by primary care physician.
6. Immediately after symptoms have subsided, the client should have a protein snack, such as:
    a. One-half sandwich of cheese, peanut butter, or meat.
    b. A glass of milk.
    c. Peanut butter and crackers.

TEACHING GUIDELINES

- There are many medications used to treat diabetes and the actions of those drugs is important if the client experiences hypoglycemia. If the client is taking drugs in the category of alpha glucosidase inhibitors, hypoglycemia can only be treated with glucose tablets or gel. Drugs in this category include Precose (Acarbose) Voglibase and Miglitol.
- Notify physician if more than one unexplained hypoglycemic reaction in a week.
- Wear medical identification tag and/or carry identification card that states client has diabetes.
- It is very dangerous to drive during a low blood sugar reaction. Wait at least 15 minutes after eating to resume driving.
- Learn to recognize signs of low blood sugar and treat promptly.

Reference: International Diabetes Center, Park Nicollet Health Services, Minneapolis, MN

DOCUMENTATION GUIDELINES

- Blood glucose levels
- Client symptoms
- Actions taken and medications administered
- Ability to take oral food and fluids or need for IV management

RELATED PROCEDURES

Diabetic hyperglycemia

INSULIN TYPES: ONSET AND DURATION

Insulin is a hormone that controls blood sugar. When taken by mouth, the acids in the stomach destroy most of it. Injecting insulin under the skin bypasses the stomach and allows it to stay in the body for different lengths of times depending on the type used.

TYPE OF INSULIN	NAME OF INSULIN	BEGINS TO WORK	PEAK	STOPS WORKING EFFECTIVELY
MEALTIME/BOLUS INSULINS				
RAPID ACTING	Lispro (Humolog)	5-15 minutes	1-2 hours	3-4 hours
	Aspart (Humolog)	5-15 minutes	1-2 hours	3-4 hours
	Glulisine (Aprida)	5-15 minutes	1-2 hours	3-4 hours
SHORT ACTING	Regular (novolin) (humulin)	30-45 minutes	2-3 hours	4-8 hours
BACKGROUND (BASED) INSULIN				
INTERMEDIATE ACTING	NPH	2-4 hours	4-8 hours	10-16 hours
	LENTE	2-4 hours	4-8 hours	10-16 hours
PROLONGED INTERMEDIATE ACTING	ULTRA-LENTE	3-5 hours	8-12 hours	18-20 hours
LONG ACTING	Glargine (Lantus)	2 hours	No Peak	24 hours
PRE-MIXED INSULIN	75/25 with Lispro	5-15 minutes	Bolus/background 1-2 hours/4-8 hours	10-16 hours
	70/30 with Aspart	5-15 minutes	Bolus/background 1-2 hours/4-8 hours	10-16 hours
	70/30 or 50/50 with Regular	30-45 minutes	Bolus/background 1-2 hours/4-8 hours	10-16 hours

Two main kinds of insulin used in diabetes treatment are bolus insulin and background insulin. Bolus insulin supplies a burst of insulin and usually is taken before a meal. The two types of bolus insulin are rapid acting and short acting. Rapid acting leaves the body more quickly than the short acting insulin.

Background insulin supplies a low level of insulin throughout the day and overnight. The three kinds of background insulin are intermediate acting, prolonged intermediate acting and long acting. Of the three different background insulin, long acting stays in the body the longest. Bolus and background insulin also come mixed together. These are called premixed insulin.

DIABETIC FOOT CARE

Diabetes can cause two problems that affect feet.

About 50-70% of non-traumatic lower extremity amputations occur in clients with diabetes. Clients who present with wounds, infections or ulcers require intensive treatment. Proper foot care can help prevent common foot problems and/or treat them before they cause serious complications.

Diabetic Neuropathy: Uncontrolled diabetes can damage the nerves. If nerves in feet and legs are damaged, it affects the client's ability to feel heat, cold or pain. If there is diminished sensation and the client does not feel a cut or sore on the foot, it may be neuropathy and predisposes the person to infections.

Peripheral Vascular Disease: Diabetes affects the flow of blood. Without good blood flow, it takes longer for wounds to heal. Poor blood flow in the arms and legs is called peripheral vascular disease. Infections that do not heal because of poor circulation place a person at risk for developing gangrene (death of tissue due to lack of blood). To prevent gangrene from spreading, an amputation may be necessary. Many amputations can be avoided through proper foot care.

PURPOSE

To prevent common foot problems related to diabetes.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

Note: Home Health Aides may not trim or cut nails.

EQUIPMENT/SUPPLIES

- Soft washcloth and towels
- Soap
- Disposable gloves
- Body lotion
- Orange stick
- Emery board or nail file
- Nail clippers

PROCEDURE

1. Identify the client per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Fill washbasin and emesis basin with warm water (100° to 110° F). Test the water temperature.
4. Position the client, preferably sitting in a chair or in bed.
5. Examine the foot.
    a. Palpate the dorsalis pedis and posterior tibialis pulses. Document the presence or absence. Poor lower extremity blood flow can delay healing.
    b. Assess for sensory neuropathy. Decreased sensation limits the client's ability to protect the feet and ankles.
6. Place wash basin on a towel on the floor and assist client to place feet in the basin.
7. Wash feet.
8. Don clean gloves.
9. Care of toenails:
    a. Clean feet with soft washcloth and soap.
    b. Gently clean under nails using an orange stick.
    c. Remove feet from basin and dry thoroughly with clean towel.
    d. Clip toenails straight across and even with the top of toes. If the client has circulatory problems, do not cut nails. File the nails only.
    e. Shape nails with emery board or nail file. Do not file corners of toenails.
10. Apply lotion liberally to hands and feet, but not between toes.
11. Remove gloves. Clean reusable equipment and dispose of waste according to the Agency Waste Disposal Policy.
12. Wash hands. Refer to the Hand Washing procedure.
13. Instruct the client on skin care guidelines. Instruct the client on the prevention of foot problems:
    a. Keep blood glucose levels in target range.
    b. Practice good foot care habits. Wash feet with mild soap and water daily and dry them completely.
    c. Check feet daily – top, bottom and between toes. If you notice any sign of infections, call health care provider. Inspect feet daily for blisters, cuts, scratches, redness or discoloration.

d. Treat foot injuries immediately. Minor blisters, cuts or scrapes can be cleaned and treated with an antibiotic cream. Check daily to make sure area is healing.

e. If corns, calluses, or warts are present, see a podiatrist or physician. Do not use chemical lotions to treat; they are too harsh for diabetic skin.

f. Encourage use of super fatted soaps and lotions (i.e., Dove, Alpha Keri, Lubriderm, Keri Lotion).

g. Wear socks and shoes made from natural materials such as cotton, wool, and leather. Make sure shoes fit well. Improperly fitted shoes may cause injury to feet. Leather shoes allow some air to circulate to feet. Plastic shoes cause feet to perspire, leading to fungal infections, rashes, and blisters.

h. If feet are sweaty, use a mild foot powder between toes and in socks and shoes. Keep blood flowing to feet. Elevate legs when sitting. Wiggle toes and move ankles several times a day. Don't cross legs for periods of time. Do not smoke

i. Wear socks to bed if feet feel cold. Never use hot water bottles or heating pads.

j. Buy well fitting, comfortable socks and shoes.

k. Before putting on shoes, check them for foreign objects, torn linings, and protruding nails.

l. Never walk barefoot.

m. If rising at night, turn on the lights to avoid bumping feet.

n. Contact physician if nails or feet show signs of inflammation or infection. Visit health care provider every 3-4 months.

o. Circulation is adversely affected by smoking and extreme cold.

p. Certain positions and situations will compromise circulation: sitting with legs crossed; or wearing tight support hose, knee-high stockings, or garters.

q. Avoid application of topical antimicrobial medications in first-aid technique. These medications color the skin and mask the redness of infection.

14. When to contact a physician:

a. Changes in skin color, temperature.

b. Swelling in foot or ankles.

c. Pain in the legs.

d. Open sores on feet.

e. Ingrown toenails or infected toenails.

f. Corns or calluses.

g. Dry, cracking skin.

h. Unusual or persistent foot odor.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Foot care performed.
- Status and condition of nails and feet.
- Presence or absence of pulses.
- Changes in sensation.
- Instructions given to the client.
- Notification to physician of any changes in condition.

RELATED PROCEDURES

None

DIABETIC SKIN CARE

If blood sugar is high, the body loses fluid, causing the skin to become dry. This occurs because the body is turning water into urine to remove the excess sugar from the blood. Skin can also get dry if the nerves in legs and feet do not get the message to sweat because of diabetic neuropathy. Sweating helps keep skin soft and moist.

Dry skin can become red and sore, and can crack and peel. Germs can enter through the cracks in skin and cause infection. High levels of sugar in the blood provide excellent breeding ground for bacteria and fungi, and reduce the body's ability to heal itself.

Most skin conditions can be prevented or managed if identified in time.

COMMON SKIN PROBLEMS IN DIABETICS

Allergic Reactions: Causes rashes, depressions or bumps on skin. It is very important for diabetics to check for reactions in areas where insulin is injected.

Atherosclerosis: Narrowing of blood vessels from thickening of vessel walls. Can affect blood vessels throughout the body. Changes occur due to a lack of oxygen to the part of the body. Loss of hair, thin and shiny skin, thickened and discolored toenails, and cold skin are symptoms of atherosclerosis. Because blood carries the white blood cells that help fight infection, legs and feet heal slowly when injured.

Bacterial Infections: Infections that affect the skin include sties (infections of glands of the eyelids), boils (infections of hair follicles) and carbuncles (infections of skin and underlying tissues). Most require treatment with antibiotics.

Diabetic Blisters: Resemble burn blisters. Can occur on fingers, hands, toes, feet, legs or arms. Usually painless and heal on their own.

Diabetic Dermopathy: Caused by changes in blood vessels. Appears as scaly patches that are light brown or red, often on front of legs. Usually no treatment necessary.

Digital Sclerosis: Skin on toes, fingers and hands become thick, waxy and tight. Treatment is to control blood sugar.

Fungal Infections: Yeast-like fungus (candida albicans) responsible for many fungal infections in diabetics. Fungus creates itchy red rashes, often surrounded by tiny blisters and scales. Most often occur in warm moist folds of skin. Three common sites: jock itch, athletes foot, and ringworm (scaly patches that itch or blister). Ringworm can appear on the feet, groin, chest, abdomen, scalp, or nails. Medicines that kill fungus are used to treat.

Itching: Pruritus can have many causes such as yeast infection, dry skin or poor blood flow. When caused by low blood flow, feet and legs most commonly affected. Use lotion to keep skin moist and soft to prevent itching.

TREATMENT GUIDELINES

- Specific to the problem - treat per physician orders.
- Controlling blood sugars is the most effective.

- Follow nutrition, exercise and medication recommendations.
- Follow good skin care.

RELATED PROCEDURES

None

BLOOD GLUCOSE MONITORING

Although blood glucose meters are simple to operate, things can go wrong. Follow these tips and the manufacturer's guide for the specific monitor.

In selecting a blood glucose monitor for client or agency use:

- Check accuracy and precision: American Diabetic Association allows 10% variance from laboratory testing.
- Meter should measure glucose between 0-500 mg/dl.
- Meter must meet OSHA standards to prevent contamination when cleaning or using meter.
- Must be able to recall previous test results.
- Simple to use.
- Cost of meter and ongoing cost of supplies.

PURPOSE

- To obtain accurate glucose reading.
- To assess changes in the blood glucose level used to modify treatment.
- To teach client/caregivers home diabetic management and how to use blood glucose.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Lancet and/or automatic Lancet device (optional)
- Reagent strips. (Identified for your monitor)
- Cotton (optional for some manufacturers)
- Alcohol wipe (considered optional by some authorities)
- Watch or clock with second hand
- Soap, water, and towel or no-rinse cleanser and towel, if water not available

PROCEDURE

Note: Parameters for adjusting the diabetic's regimen need to be clarified with the primary care physician or nurse practitioner.

1. Wash hands. Refer to the Hand Washing procedure.
2. Review the package instructions included with the reagent strips. Also, review the operating manual for the glucose monitor.

3. Remove a reagent strip from the container. (Do not use test strips from a damaged bottle or strips that are past their expiration.)
4. Tightly recap container.
5. Instruct the client to wash site with warm water and dry thoroughly.
6. Twist off the lancet cap without touching the sterile point. If you are using an automated device, wipe the contact site with alcohol prior to inserting the lancet.
7. Wipe the site with alcohol unless contraindicated by primary physician. Alcohol has a drying effect on the skin, and repeated use can lead to fissures.
8. If using a finger site, have the client lower his hand below the level of the heart for thirty seconds. Some blood glucose meters can use blood samples from the upper arm, forearm, base of the thumb or thigh.
9. Using a quick stick-and-withdraw motion, puncture the skin. If using an automated device, firmly hold the device against the site and activate.
10. Place test strip into the monitor as directed. You should feel the strip stop against the end of the meter guide.
11. Gently squeeze the site in a downward motion to obtain a drop of blood large enough to cover the entire test pad. (Most monitors require minimal amount of blood for tests.)
12. Begin timing as soon as the blood is placed on the test pad or as stated in the manufacturer's instructions. Many of the monitors will automatically provide results on digital screen. No timing is necessary.
13. Wait another specified time period. Time period depends upon the manufacturer's guidelines.
14. Wash hands. Refer to the Hand Washing procedure.
15. Record the blood glucose result in the client's log book. Include insulin or oral hypoglycemic agent dose, time of test, dietary intake, and symptoms.
16. If blood glucose level indicates hyperglycemia or hypoglycemia, follow the primary care physician or the nurse practitioner guidelines.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Calibration or testing of the meter, as applicable.
- Blood glucose level.
- Method used to obtain level.
- Dose of insulin or oral hypoglycemic agent.
- Time of test.
- Dietary intake.

- Symptoms.
- Any actions taken to correct hyperglycemia or hypoglycemia reactions.
- The client's response to actions.
- Any instruction given including demonstrated ability to use machine.

RELATED PROCEDURES

SubQ Injections, Insulin Mixing, Management of Diabetic Hypoglycemia/Hyperglycemia

INSULIN SYRINGE PREPARATION

PURPOSE

- To prepare correct amount of insulin for clients who are unable to draw up insulin due to functional or visual deficits.
- To promote client independence in the home setting where there is no available caregiver.
- To teach the client how to store and manage pre-filled syringes.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Insulin per physician orders
- Insulin syringes
- Alcohol wipes
- Sharps container

PROCEDURE

1. Gather equipment.
2. Explain the procedure to the client.
3. Wash hands. Refer to the Hand Washing Procedure.
4. Draw up the prescribed amount of insulin in syringes for the required number of days. (Refer to procedure for drawing up medications from vials and ampules.)
5. Client instructions:
    a. Keep pre-filled syringes in the refrigerator.
    b. Never store the syringes with the needle down as crystals may form in the needle.
    c. Roll the syringe between the palms of hands to mix before administering to mix insulin.
    d. Administer the insulin at room temperature. It should be removed from the refrigerator an hour before time to take insulin.
    e. Place used needles/syringe in sharps container.
6. Review diabetic management routines including blood sugar levels and diet.
7. Clean and replace equipment.

DOCUMENTATION GUIDELINES

- Document in the clinical record:
- Procedure performed.
- Number of syringes that are pre-filled.
- Compliance with administration.
- Reason nurse needed to pre-fill syringes.
- Instruction provided and client response.

RELATED PROCEDURES

SubQ Injections, Drawing Up Medications, Medication Administration

INSULIN PEN

PURPOSE

- To promote client independence in the home setting where there Is no available caregiver.
- To provide an accurate and convenient way to carry insulin with you.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Insulin pen per physician orders
    - Pen often comes prefilled and disposable when empty. A few models may require you to load an insulin cartridge. Multiple doses are possible with each pen or cartridge holding 300 unites. Possible single dose amounts range from ½ unit to 80 units.
    - Unopened insulin should be refrigerated. Once in use, keep at room temperature below 80°F.
- Alcohol wipes
- Sharps container

PROCEDURE

1. Gather equipment.
2. Explain procedure to client.
3. Wash hands. Refer to Hand Washing procedure.
4. If required, load insulin cartridge into the pen device.
5. Get needle ready:
6. Pull paper tab off pen needle.
7. Screw needle onto insulin end of pen.
8. Remove outer needle cover.
9. Remove inner needle cover to expose the needle, and throw inner needle cover in trash. (Pen needles are available in many sizes.)
10. Prime the pen and clear air from the needle. This adjusts the pen and needle for good accuracy when it’s time to measure your insulin dose.

11. Turn the dose selector knob at the end of the pen to 1 or 2 units (watch the dose markings change with turning the knob).
12. Hold the pen with the needle pointing upward. Press the dose knob completely while watching for insulin drop or stream to appear. Repeat if necessary, until insulin is seen at the needle tip. The dial should be back at zero after completing this test.
13. Turn the dose knob to “dial in” your insulin dose. (You can dial backward too.)
14. The pen will allow you to receive only the amount that you have set. Double-check the dose window to make sure it is set for the proper dose.
15. Choose an injection site. The abdomen is the preferred place for many types of insulin: between the bottom of the ribs and the pubic line, avoiding the area immediately around the navel. The top of thighs and back of upper arms may also be used.
16. Inject insulin. Curl fingers around the upper end of the pen to hold secure. Put thumb above the knob.
17. Gently pinch skin up with your free hand, and insert the needle at a 90-degree angle. Release the skin and use thumb to press down on the dose knob until it stops (the dose window will be back at zero).
18. Pull the needle straight out of the skin. Lightly pat the area but do not massage.
19. Place outer needle cover over the needle and twist to unscrew needle from the pen. Throw used needle away in sharps container or another hard container. Put the outer needle cover back on the pen.

DOCUMENTATION GUIDELINES

20. Document in the clinical record:
    a. Procedure performed.
    b. Dose and site of insulin administered.
    c. Skin condition.
    d. Assistance needed with procedure.
    e. Instruction provided and client response.

RELATED PROCEDURES

SubQ

URINARY CATHETER INSERTION: STRAIGHT OR INDWELLING CATHETER

PURPOSE

- To obtain a sterile urine specimen.
- To facilitate emptying bladder.
- To relieve bladder distention.
- To irrigate bladder.
- To measure residual urine.
- To manage bladder incontinence.
- To provide an accurate measurement of output.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Catheter insertion kit (verify size and type of catheter required for procedure) or the following individual items:
    - Individual catheter (verify size and type of catheter required for procedure)
    - Sterile gloves
    - Clean, disposable gloves
    - Two sterile drapes, one of which is fenestrated
    - Sterile water-soluble lubricant
    - Antiseptic cleansing solution
    - Sterile cotton balls
    - Sterile forceps
    - 10 ml syringe, pre-filled with normal saline (used with indwelling catheter to inflate the balloon)
    - Sterile drainage bag or leg bag if inserting indwelling catheter
    - Leg strap or tape if inserting indwelling catheter
    - Sterile specimen container (if specimen is to be collected)
    - Sterile receptacle or basin
    - Sterile irrigation kit with sterile bulb syringe and container for irrigation, if irrigation ordered
    - Sterile normal saline solution
    - Warm water, soap, washcloth, and towel
    - Waterproof pad

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Screen the client. Position the client in a lying position:
    a. For female: Supine with knees flexed and legs widely spread apart.
    b. For male: Supine with knees slightly flexed and legs slightly spread apart.
4. Raise bed to working level if client is in adjustable bed. Facing the client, stand on left side of bed if right-handed and on right side of bed if left-handed.
5. Place waterproof pad under the client and drape client with towel or blanket.
6. Don clean gloves.
7. Clean perineal area with soap and warm water. Rinse and dry.
8. Remove gloves and discard. Wash hands. Refer to the Hand Washing procedure.
9. Open catheter kit or individual sterile supplies. Don sterile gloves and organize supplies on sterile field.
    a. Soak cotton balls with antiseptic solution.
    b. Check patency of indwelling catheter balloon by attaching syringe and injecting normal saline. Withdraw solution and set syringe aside on sterile field. Verifies integrity of balloon. Do not pretest balloons on silicone catheters because it can cause a crease at the base of the balloon that can traumatize the urethra on insertion.
    c. Lubricate catheter tip. Facilitates catheterization and reduces trauma to the urethra.
    d. If a specimen is to be collected, open specimen container and place the lid loosely on top.
10. Drape the client:
    a. For female: Pick up first drape and allow top edge to cover gloves. Slide drape on bed just under the client's buttocks. Pick up fenestrated drape and allow it to unfold. Place over perineum exposing labia. Do not touch contaminated surfaces with gloves.
    b. For male: Place first drape over thighs just below penis. Pick up fenestrated drape and allow it to unfold. Place just above penis with fenestrated area over the penis. Do not touch contaminated surfaces with gloves.
11. Cleanse the urethral meatus:
    1. For female: Separate labia with thumb and forefinger of non-dominant hand. Using dominant hand and forceps, pick up cotton ball and cleanse area, wiping from front to back. Repeat procedure three times using new cotton ball each time. Keep labia separated throughout procedure.

b. For male: Hold penis in non-dominant hand and retract foreskin, if applicable. Using dominant hand and forceps, pick up cotton ball. Cleanse around meatus using a circular motion and moving from center to outside.

12. For female: Pick up catheter and proceed to catheterize:
    a. Instruct the client to bear down gently. Insert catheter into urethral meatus. Relaxation aids in catheter insertion.
    b. Advance catheter until urine begins to flow out end. Approximately two to three inches in adults, one inch in children. Female urethra is short.
    c. When urine begins to flow out, advance catheter another two inches. Do not force catheter against resistance. If no urine is present after a few minutes, check if catheter is inadvertently inserted in vagina. If so, leave in place as landmark for next catheterization.
    d. Release labia and hold catheter securely with non-dominant hand.
13. For male: Pick up catheter and proceed to catheterize:
    a. Lift penis perpendicular to the client's body and insert catheter. Have the client bear down gently. Bearing down straightens the urethral canal and relaxes the client to aid in catheter insertion.
    b. If resistance is met, apply light traction pressure on penis.
    c. Advance catheter until urine begins to flow out end. Approximately seven to nine inches in adults, two to three inches in children.
    d. Lower penis and hold catheter securely with non-dominant hand.
14. If specimen is to be collected, remove lid from specimen container and hold catheter tip over container with dominant hand. Collect 20 to 30 ml. Pinch catheter to temporarily stop the flow of urine. Refer to Urine Collection from an Indwelling Catheter Procedure.
15. If checking residual urine, allow remaining urine to drain into collection tray and measure.
16. **Straight Catheterization***:* Slowly remove single-use catheter after urine specimen collection is complete.
17. **Indwelling Catheter:**

    Inflate balloon (do not inflate until you have confirmed urine is flowing):
    a. Anchor catheter with non-dominant hand.
    b. Attach syringe to injection port with dominant hand.
    c. Inject prescribed amount of solution to inflate the balloon.

Caution: If the client complains of sudden pain, the catheter may be in the urethra. Withdraw the solution and advance catheter further, then repeat procedure.

d. After balloon is filled, remove syringe. Gently pull on catheter until resistance is met to anchor catheter tip in place.

18. Closed Drainage System:

    a. *Drainage Bag:* Connect catheter to tubing end of drainage bag. Place the bag below the bladder level. Check to be sure there are no kinks or obstructions in the tubing.

    b. *Leg Bag:* Connect catheter to tubing end of leg bag. A leg bag is usually worn during the day and allows for increased mobility. Refer to *Application of a Leg Bag* procedure.

    c. Secure catheter and bag with leg strap or tape. Allow for slack so movement of leg and thigh does not create pressure on the catheter. Anchors catheter and prevents pressure on the urinary meatus.

19. If urine specimen is collected, secure lid on container. Place labeled container in biohazard bag and attach requisition. Deliver to lab within 15 minutes or refrigerate.

20. Remove gloves and dispose of waste per Agency Waste Disposal Policy.

21. Wash hands. Refer to the Hand Washing procedure.

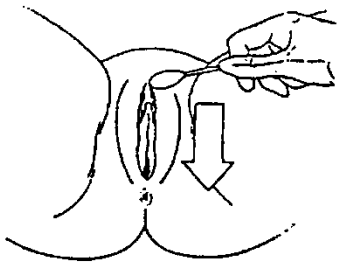
DOCUMENTATION GUIDELINES

Document in the clinical record:

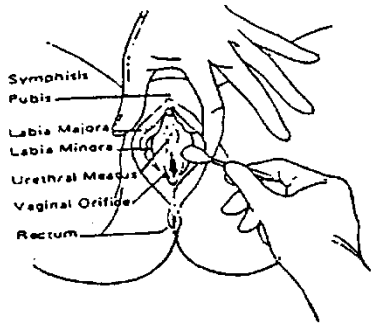
- Type and size of catheter inserted.
- Date and time of catheter insertion.
- Urine return and characteristics, color, and odor, if any.
- Amount of urine prior to residual catheterization.
- Any difficulties or discomfort.
- Teaching provided and client/caregiver response.
- The client's tolerance of the procedure.

RELATED PROCEDURES

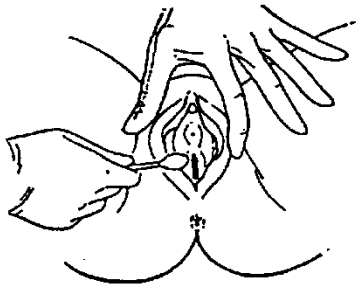
Urine Collection from an Indwelling Catheter, Application of a Leg Bag (as applicable)



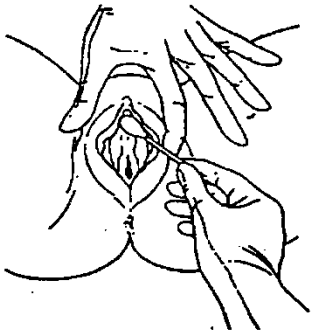
(1.)
USE EACH COTTON BALL OR SWAB ONLY ONCE. CLEANSE FROM CLEANEST AREA (NEAR SYMPHASIS PUBIS) TOWARD THE MOST CONTAMINATED AREA (NEAR THE RECTUM).



(2.)
SEPARATE LABIA USING A SINGLE DOWNWARD MOTION. CLEANSE LABIAL AREA ON ONE SIDE.

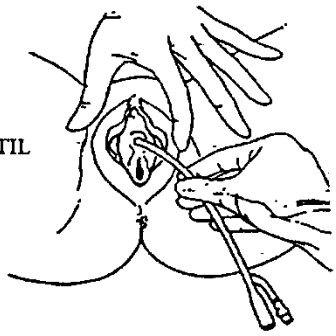


(3.)
USE A SECOND COTTONBALL OR SWAB TO CLEANSE LABIAL AREA ON OPPOSITE SIDE.



(4.)
USE A THIRD COTTONBALL OR SWAB TO CLEANSE URETHRAL MEATUS.

(5.)
INSERT CATHETER 2-3 INCHES OR UNTIL URINE FLOWS. SEE PROCEDURE TO COMPLETE INSTRUCTIONS.



RELATED PROCEDURES

Urine Collection from an Indwelling Catheter, Application of a Leg Bag (as applicable)

INTERMITTENT SELF-CATHETERIZATION

PURPOSE

- To enable the client who no longer has voluntary bladder control to independently maintain urinary continence.
- To empty bladder at regular intervals without the risk of an indwelling catheter.
- To instruct the client or caregiver in the procedure of self-catheterization.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Clean catheter (check for correct size)
- Antiseptic swabs or solution
- Cotton balls
- Forceps
- One pair of disposable gloves
- Lubricant
- Basin
- Waterproof, absorbent pad
- Paper towels

PROCEDURE

Instruct the client and caregiver in the following:

1. The hand washing process and importance of infection control.
2. The equipment and supplies necessary for the procedure and the correct method for handling. Procedure may be done using clean technique.
3. Single-use catheters should not be reused in any setting. Instruct the client to keep a supply of catheters at home and to use a new (clean) catheter each time.
4. Clean all reusable catheters with soap and warm water after each use. Sterilize reusable catheters in a pan of boiling water for 20 minutes. Set on clean paper towel to dry; store dry catheters in a clean plastic bag.
5. Preparation and cleaning of urethral meatus for catheter insertion.
6. Proper positioning of client to facilitate catheterization. Positions may include: sitting or lying in bed with legs bent and knees apart, or sitting on the toilet.
7. Catheter insertion process:

a. Male client:
    - Retract foreskin as applicable and cleanse around meatal opening.
    - Lubricate catheter tip.
    - Hold penis at right angle to the body.
    - Bear down as if voiding and take slow deep breaths.
    - Insert catheter until urine flows.
    - When urine stops draining - remove catheter.

b. Female client:
    - Separate vulva folds and wash perineal area front to back.
    - Dry the area and lubricate catheter tip.
    - Spread lips of vulva with one hand while inserting catheter into urethral meatus.
    - Insert catheter until urine begins to flow.
    - When urine stops flowing, remove catheter.
    - Rinse catheter in cold water and wash in warm soapy water.

8. Signs and symptoms of urinary tract infection: fever; cloudy, foul-smelling urine; pain.
9. Care of the equipment and supplies:
    a. Wash reusable equipment in warm, soapy water.
    b. Place on clean paper towel and allow to air dry thoroughly.
10. Have the client verbalize and return demonstrate each step of the self-catheterization procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date/time of catheterization.
- Teaching done and return demonstration.
- Tolerance of the procedure and any problems performing the procedure.
- Amount of urine and if increased or decreased from previous times.
- Characteristics of the urine (color, odor, clarity, signs of blood).
- Additional learning needs.

RELATED PROCEDURES

Urinary Catheter Insertion

CARE OF SUPRAPUBIC CATHETER

A suprapubic catheter is inserted into the bladder surgically through the abdominal wall. The catheter is connected to a straight drainage system. Once the stoma site has healed, changing of the catheter may be done by nursing depending on agency policy and state nurse practice acts.

PURPOSE

- To maintain catheter patency and adequate urine output.
- To promote self care in the home.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

For catheter changing:

- Catheter insertion kit
- Sterile indwelling catheter (verify size and type of catheter required for procedure)
- One pair of sterile gloves
- Two sterile drapes, one of which is fenestrated
- Sterile water soluble lubricant
- Antiseptic cleansing solution
- Sterile cotton balls
- Sterile forceps
- 10 ml syringe, pre-filled with normal saline
- 10 ml syringe
- Sterile drainage bag and tubing
- Leg strap or tape
- Sterile specimen container (if specimen is to be collected)
- Sterile receptacle or basin

For catheter care:

- Sterile irrigation kit with sterile bulb syringe and container for irrigation
- Sterile normal saline solution
- Waterproof pad, gloves, gauze, antiseptic solution

PROCEDURE

Catheter Care:

1. Verify physician orders.
2. Wash hands. Refer to the Hand Washing procedure.
3. Position the client for easy access to the catheter site.
4. Remove old dressing and discard.
5. Put on gloves.
6. Assess the stoma site, condition of skin, and patency of the catheter.
7. Cleanse the stoma site using circular motion.
8. Use saline or antiseptic solution as ordered.
9. Cleanse the catheter from distal to proximal end.
10. Apply dry dressing to the site as needed.

Catheter change: *(Follow steps above to prepare site.)*

1. Place waterproof pad under the client.
2. Open catheter kit or individual sterile supplies.
3. Don sterile gloves and organize supplies on sterile field.
    a. Check patency of indwelling catheter balloon by attaching pre-filled syringe and injecting normal saline. Withdraw solution and set syringe aside on sterile field. Verifies integrity of balloon. Do not pretest balloons on silicone catheters because it can cause a crease at the base of the balloon that can traumatize the urethra on insertion.
    b. Lubricate catheter tip. Facilitates catheterization and reduces trauma.
    c. If a specimen is to be collected, open specimen container and place lid loosely
    on top.
4. Drape the client. Expose suprapubic catheter site.
5. Using dominant hand and forceps, pick up cotton ball. Cleanse around catheter site using a circular motion and moving from center to outside.
6. Using non-dominant hand, attach empty 10 ml syringe to the existing catheter injection port to deflate the balloon. Hold catheter in place. The non-dominant hand is no longer sterile.
7. Pick up sterile catheter with dominant hand.
8. Using the non-dominant hand, withdraw existing catheter. Insert sterile catheter with dominant hand. Insertion must be done quickly, as the site will not remain open long.
9. Insert catheter at least four inches from the tip. Avoid inserting any farther than when resistance is met. Resistance during insertion means the catheter is inside the bladder.

10. Inflate balloon:
    a. Inject prescribed amount of solution to inflate the balloon.
    b. After balloon is filled, remove syringe and gently pull on catheter until resistance is met to anchor catheter tip in place.
11. Closed Drainage System:
    a. *Drainage Bag:* Connect catheter to tubing end of drainage bag. Place the bag below the bladder level and check to be sure there are no kinks or obstructions in the tubing.
    b. *Leg Bag:* Connect catheter to tubing end of leg bag. A leg bag is usually worn during the day and allows for increased mobility.
12. If urine specimen collected, secure lid on container. Place labeled container in biohazard bag and attach requisition. Deliver to lab within 15 minutes or refrigerate.
13. Remove gloves and dispose of waste according to the Agency Waste Disposal Policy.
14. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Condition of the stoma site.
- Characteristics of the urinary drainage.
- Type and size of catheter inserted.
- Date and time of catheter insertion.
- Any urine specimens collected and delivery to lab.
- Teaching done and client/caregiver response.
- The client's tolerance of the procedure.

RELATED PROCEDURES:

APPLICATION OF A LEG BAG, URINE COLLECTION FROM AN INDWELLING CATHETER

APPLICATION OF A LEG BAG

PURPOSE

- To allow for discrete collection of urine.
- To encourage and allow the client ambulation and independence.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable leg drainage bag
- One pair of disposable gloves
- Protective, waterproof pad

PROCEDURE:

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Place protective pad under client's buttocks and thigh.
4. Position leg bag and straps. Squeeze air out of bag.
5. Attach top strap of leg bag to thigh and lower strap to calf. The flutter valve should be positioned at the top with the drain valve pointed downward.
6. Pinch or bend catheter to cut off flow of urine.
7. Disconnect catheter from drainage bag tubing. Cap end of drainage bag tubing. Be sure to maintain asepsis of the catheter.
8. Connect catheter end to flutter valve on the leg bag and release catheter to allow urine to flow.
9. Instruct the client to empty the leg bag when it is 3/4 full.
10. Empty drainage bag and clean, following Care and Cleaning of Urinary Drainage Bags procedure.
11. Instruct the client to change back to drainage bag at night and clean leg bag following the Care and Cleaning of Urinary Drainage Bags procedure.
12. Remove gloves and wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure performed with any client or caregiver teaching.
- Characteristics of urine.

RELATED PROCEDURES

Care and Cleaning of Urinary Drainage Bags

CARE AND CLEANING OF URINARY DRAINAGE BAGS

PURPOSE

- To provide for care of urinary drainage bags.
- To prevent urinary tract infections.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Wash basin
- Warm, soapy water (mild soap)
- Disposable gloves
- Soiled urinary drainage bag

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Fill basin with warm, soapy water.
4. Empty urinary drainage bag, if not already done.
5. Record amount of urine in clinical record.
6. Disconnect bag from catheter. Attach new drainage bag.
7. Submerge soiled drainage bag in water and clean thoroughly.
8. Rinse in warm water.
9. Hang to dry in bathroom; i.e., over bathtub.
10. Empty water and clean basin.
11. Remove gloves and wash hands. Refer to the Hand Washing procedure.
12. Document in the clinical record.

DOCUMENTATION GUIDELINES

- Procedure completed and products used for cleaning
- Color and odor of urine

- Any pertinent observations
- Teaching for client/caregiver

RELATED PROCEDURES

Urinary Catheter Insertion, Application of a Leg Bag, Suprapubic Catheter Change

BLADDER PROGRAM

PURPOSE

- To increase bladder tone and allow the client to regain bladder control without a catheter,
  if possible.
- To increase the client's self-esteem.
- To avoid the development of a urinary tract infection from continued use of an indwelling catheter.
- To prevent skin irritation and breakdown.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Clamp
- Measuring device

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Instruct the client in the process of increasing bladder tone.
3. With an Indwelling Catheter:
   a. Clamp catheter for approximately two hours (possibly less, depending on client's tolerance of the procedure).
   b. Unclamp catheter and have the client push down to stimulate urination and empty bladder. May massage over bladder area. Measure urine output.
   c. Repeat process every two hours until the client is able to hold approximately 250 ml of urine and feels the urge to void.
   d. Record intake and output.
   e. Notify physician of results and obtain order to remove the Foley catheter.
   f. Remove catheter.
   g. Proceed to next section.
4. Without an Indwelling Catheter:

a. Instruct or take the client to void after meals and fluids, after naps, before bed, before activities, and more often if necessary. Encourage the client to use the toilet instead of relying on bedpans and urinals, if possible.

b. Assist the client in developing a bladder routine and assess pattern.

c. Instruct the client to fully empty bladder each time.

d. If the client is incontinent at night, try waking to void during the night.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Frequency of and tolerance to clamping catheter and amount held.
- The client's routine.
- The client's progress with the program.
- Any incontinence.
- Notifications to physician.
- Instructions given to client and client's ability to repeat instructions and demonstrate compliance.

RELATED PROCEDURES

None

INTERMITTENT IRRIGATION OF INDWELLING URINARY CATHETER

PURPOSE

- To maintain catheter patency.
- To provide intermittent irrigation of the system without disrupting the sterility of the catheter and drainage system.

Note: Open intermittent irrigation breaks the closed drainage system. The nurse maintains asepsis throughout the procedure.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Closed Intermittent Method:

- Sterile irrigating solution
- Sterile graduated cup
- Sterile 30 to 50 ml syringe
- Sterile 19 to 22 gauge with 1-inch needle
- Antiseptic swab
- Screw clamp
- One pair of disposable gloves

Open Intermittent Method:

- Sterile irrigation tray and set (disposable)
- Sterile piston or bulb syringe (may be included in tray set)
- Sterile collection basin
- One pair of sterile gloves
- Waterproof drape
- Antiseptic swabs
- Ordered irrigating solution (at room temperature; cold solution may cause bladder spasms)
- Tape
- Alcohol prep pad

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.

2. Place the client in dorsal recumbent position. This position facilitates the gravitational flow of fluid from the bladder.
3. Assess urine output and characteristics.
4. Closed Intermittent Irrigation Method:
    a. Prepare sterile irrigation solution by pouring prescribed amount into sterile, graduated cup.
    b. Open sterile syringe and attach needle using aseptic technique.
    c. Don gloves.
    d. Draw sterile solution into syringe.
    e. Clamp drainage tubing below the soft injection port. Injection port also may be used for specimen collections.
    f. Cleanse injection port with antiseptic swab.
    g. Insert needle at 30-degree angle through the injection port.
    h. Slowly inject fluid into catheter and withdraw the syringe.
    i. Remove clamp and allow fluid to drain into the drainage bag. Keep clamp in place longer per specific physician orders.
5. Open Intermittent Method:
    a. Open sterile irrigation tray and establish sterile field.
    b. Pour required amount of sterile irrigating solution into sterile container.
    c. Place waterproof drape under the catheter.
    d. Place sterile basin next to the client's thigh.
    e. Don sterile gloves.
    f. Draw up prescribed amount of solution into syringe.
    g. Cleanse connection site of catheter and drainage bag with antiseptic swab.
    h. Disconnect catheter from drainage bag. Keep end of catheter sterile. Cap or position drainage tubing to maintain sterility.
    i. Attach end of syringe to the catheter and slowly inject the fluid into the catheter.
    j. Remove the syringe and allow the solution to drain into the basin.
    k. Repeat procedure as ordered by the physician for bladder irrigation or instillation.
    l. After irrigation is complete, obtain drainage tubing and remove cap, if applicable.
    m. Cleanse open end at adapter site with alcohol prep pad and reconnect with end of catheter.

6. Secure catheter and drainage tubing with tape or leg strap.
7. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Urine characteristics before and after procedure.
- Type and amount of irrigating solution instilled.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

CARE OF URINARY DIVERSION DEVICE

Urinary diversions are surgical procedures performed to provide an alternate pathway for the flow of urine to correct obstructions of the renal system caused by tumors, trauma or congenital malformations. There are several types of urinary diversion procedures including suprapubic, cutaneous ureterostomy, ileal conduit, and continent ileal bladder conduit.

Cutaneous Ureterostomy: Created by excising the ureters from the bladder and forming a stoma by bringing one or both of the ureters to the abdominal surface. Because of continuous urinary drainage, the client must wear an appliance.

Ileal Conduit: Surgically created by taking a small section of the small intestine and forming a pouch with a stomal opening on the abdominal surface. Ureters are disconnected from the bladder and redirected to drain into the stoma. Carries a high potential of reflux and an appliance must be worn.

Continent Ileal Conduit: Surgically created by forming a pouch with intussuscepting tissue that forms nipple valves to prevent reflux and leakage. While an appliance is not needed, the client must perform intermittent self-catheterization every 24 hours.

PURPOSE

- Maintain adequate flow of urine.
- Identify presence of infection or irritation at site.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Appropriate appliance and sealant/paste
- Gauze dressings
- Scissors
- Towel and washcloth
- Drainage container
- Clamp
- Gloves
- Tape

For continent diversion:

- Sterile gloves.
- Antiseptic ointment if ordered.
- Catheter and drainage container.

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Gather equipment.
3. Explain the procedure to client.
4. Continent urinary diversion:
    a. Put on gloves and remove old dressing.
    b. Cleanse stoma site using gauze soaked in normal saline or antiseptic solution.
    c. Insert catheter into stoma 2-2.5 inches and allow urine to drain into container.
    d. Cleanse around stoma with soap and water.
    e. Apply dressing.
5. Incontinent urinary diversion:
    a. Cut pouch opening to size.
    b. Remove adhesive backing put on gloves.
    c. Remove old pouch.
    d. Cleanse stoma site with soap and water.
    e. Apply skin barriers or adhesives, then pouch over the stoma.
    f. Empty contents of old pouch and measure drainage.
    g. Rinse pouch with tap water.
    h. Wash hands.

SPECIAL CONSIDERATIONS:

Emphasize the importance of a well-fitted appliance to prevent seepage of urine onto the skin. When positioned correctly, most appliances can remain in place for 3-5 days without leakage.

- After 5 days, the appliance should be changed. With improved pouches and adhesive, belts aren't always necessary.
- Because urine flows constantly, to prevent the weight of the urine from loosening the seal around the stoma, the appliance should be emptied when no more than half full.
- Client should connect to urine collection container before going to bed. This prevents urine from accumulating and stagnating in the appliance.

- Reusable appliances should be washed with soap and lukewarm water and air dried to prevent brittleness. Soaking the appliance in vinegar and water or placing deodorant tablets in it can dissipate odors. Maintaining good fluid intake also helps to reduce odors by diluting the urine.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Condition of stoma site.
- Characteristics of urinary drainage.
- Client tolerance of procedure.
- Teaching done and return demonstrations.
- Any problems and interventions to correct.

RELATED PROCEDURES

None

VAGINAL IRRIGATION (DOUCHE)

PURPOSE

- To cleanse the vaginal cavity.
- To remove any foul odor that may be present.
- To administer medications into the vaginal cavity.

APPLIES TO

- Registered nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Vaginal irrigating solution and container
- Tissues/paper towels
- Perineal pad
- Protective, waterproof pad
- Disposable gloves
- Bedpan
- Lamp for extra lighting

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Position the client in dorsal recumbent position.
4. Position lamp, if necessary, for a better view of the vaginal orifice.
5. Place the client on bedpan with protective pad underneath.
6. Warm irrigating solution to body temperature.
7. Gently separate and pull back labia folds with nondominant hand.
8. With dominant hand, insert container nozzle into vaginal opening, approximately three to four inches.
9. Raise the container approximately 12 to 20 inches above the level of the vagina.
10. Allow the solution to flow in while rotating the nozzle.
11. Administer all of the solution.
12. Withdraw the nozzle and assist the client to a comfortable position.

13. Offer perineal pad.
14. Remove gloves and dispose of equipment according to the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure, irrigating solution and amount used.
- Character of the return flow.
- Appearance of vagina and vaginal drainage or odor, if any.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

EXTERNAL CATHETERS (ALSO REFERRED TO AS CONDOM CATHETERS AND TEXAS CATHETERS)

PURPOSE

- To provide an external urinary drainage system as an adjunct to continence management.
- To prevent skin irritation/breakdown.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

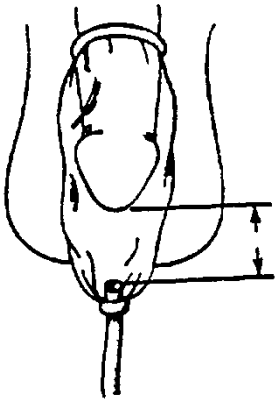
EQUIPMENT/SUPPLIES

- Rubber condom sheath of appropriate size (catheters are made of several different materials such as latex; different types may be attached in different ways)
- Velcro or elastic sheath holder; hypoallergenic tape
- Urinary collection bag and drainage tubing
- Soap, warm water, basin, washcloth and towels
- Disposable non-sterile gloves

PROCEDURE:

1. Verify client identity.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Explain the procedure to the client/caregiver.
5. Position the client in supine position with waterproof pad or towel under buttocks.
6. Wash the penis with soap and water and dry. If the client is not circumcised, retract the foreskin and cleanse meatus. Drape the client for privacy.
7. Hold the penis at a 90-degree angle and roll condom over penis, leaving approximately one to two inches between end of penis and condom - connection site.

8. Secure condom catheter with sheath holder to completely encircle penis at about one to two inches from base.



9. Connect condom catheter to drainage system. Tape to prevent dislodging.
10. Remove gloves and discard disposable items according to the Agency Waste Disposal Policy.
11. Wash hands. Refer to the Hand Washing procedure.
12. External Catheter Management:
    a. Change condom catheter daily.
    b. Wash penis, including under the foreskin if not circumcised, with soap and water at least daily.
    c. If the client is not circumcised, the foreskin must be pulled down over the head of the penis after cleansing to prevent swelling.
    d. Do not use condom catheter if the penis becomes discolored or swollen.
    e. Clean urine bag with soap and water at least once a week if reused. Fill urine bag with one part white vinegar to three parts tap water and let bag sit with water and vinegar in it for 30 minutes. Empty, rinse and air dry the bag.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Condom application.
- Condition of the skin.
- Voiding pattern.

RELATED PROCEDURES

None

ARTERIOVENOUS FISTULA/SHUNT CARE

PURPOSE

- To maintain patency of arteriovenous fistula or shunt.
- To prevent infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 4 x 4 gauze dressing
- Povodine swabs
- Antimicrobial ointment
- Elastic bandage
- Cannula clamps
- Hypoallergenic tape
- Stethoscope
- Disposable nonsterile gloves

PROCEDURE

Shunt Dressing Change

1. Wash hands. Refer to the Hand Washing procedure.
2. Explain the procedure.
3. Assemble equipment and position the client for comfort.
4. Remove the elastic bandage and dressing and discard dressing.
5. Cleanse catheter exit sites with Povodine swabs.
6. Cleanse each end of shunt with separate Povodine swabs.
7. Apply small amount of antimicrobial ointment around the cannula sites both arterial and venous.
8. Secure the shunt by taping connections with tabs at the ends of tape. This prevents tension on the shunt site when untaping.
9. Assess the patency of arteriovenous fistula:
    a. Place stethoscope over suture line and auscultate for bruit. If patent, the fistula will sound like a full bounding pulse.

a. Gently palpate shunt. Palpation should illicit a bruit.

b. Inspect the U-loop for color and warmth. If patent, the cannula will be warm and blood flow bright red. Separation of blood or dark purple/black blood indicates clotting.

10. Cover shunt with a 4 x 4 gauze dressing.
11. Wrap arm with elastic bandage and secure. Be sure you do not constrict or kink the shunt. Leave the U-shaped position of shunt exposed to assess patency.
12. Keep cannula clamps fastened on the outside of the elastic bandage at all times to control bleeding in case of accidental separation of the shunt. If shunt becomes accidentally separated, immediately clamp each shunt.
13. Notify the physician if there are any signs of infection at shunt site, if the bruit is not heard, or if clotting/bleeding occurs.
14. Discard disposable items according to the Agency Waste Disposal Policy.
15. Instruct the client/caregiver in these arteriovenous shunt precautions:
16. Check the U-loop twice daily for patency.

a. Avoid wearing restrictive clothing around fistula extremity.

b. How to protect the shunt when repositioning.

c. How to clamp catheter ends and use a pressure dressing if bleeding occurs or if the shunt is accidentally separated.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The condition of the catheter exit sites.
- The patency of shunt including auscultation findings.
- Color and temperature of blood in U loop.

RELATED PROCEDURES

None

INSERTION OF NASOGASTRIC TUBE

To determine the size of the tube to be inserted, it is important to know the purpose for tube placement. Large bore tubes are contraindicated when used primarily for feedings, because they carry an increased risk for aspiration and irritation of mucosa. Small bore tubes can be left in place for extended periods with less irritation.

PURPOSE

- To allow for the removal of flatus and gastric contents from the stomach.
- To allow for the introduction of liquids into the stomach.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

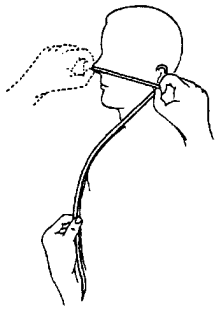
EQUIPMENT/SUPPLIES

- Nasogastric tube (size determined by purpose for insertion)
- Water-soluble lubricant
- Tongue blade flashlight
- 1-inch wide hypoallergenic tape
- Safety pin and rubber band
- Clamp, drainage bag (or suction machine)
- 50 ml catheter-tip syringe
- Towel
- Emesis basin
- Glass of water and straw
- Normal saline
- Disposable gloves
- Stethoscope
- pH test strips (optional)
- Tincture of Benzoin (optional)
- Rubber band

PROCEDURE

1. Gather equipment and explain to client.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Position the client in a high-Fowler's position with pillow behind head and shoulders.

5. Place towel over the client's chest.
6. Measure the distance to insert the tube. Measure the distance from the nose tip to the earlobe and down to the xyphoid process to the sternum. Mark the length of the tube to be inserted.



7. Verify patency of nares. Select the nostril with the greatest airflow.
8. Prepare tape. Cut a 10-inch piece of tape and split one end approximately two inches.
9. Lubricate catheter tip with water-soluble lubricant.
10. Have client hyperextend neck. Insert tube and pass it along the floor of the nasal passage. Aim downward and backward.
11. If resistance is felt, apply gentle pressure and rotate to advance the tube. Do not force.
12. If unable to pass tube, withdraw, re-lubricate catheter, and try the other nostril.
13. As the tube reaches the oropharynx, instruct the client to flex his/her head forward to swallow. You may give water if the client is allowed to have fluids. Advance the tube with each swallow. (Emphasize the need to mouth breath and swallow during the procedure.
14. If the client begins to cough, choke, gag, or gasp, withdraw the tube slightly and reattempt. This may indicate that the tube is in the trachea.
15. If the client continues to cough and choke or the tube continues to fail to advance, the tube may be kinked or coiled in the back of the throat. Withdraw the tube until it is straightened and reattempt.
16. Verify tube placement:
    a. Aspirate gastric secretions.
    b. Have the client talk and hum. If the tube is in the lung, the client will not be able to hum.
    c. Examine the back of the client's throat for the presence of coiled tube.
    d. Check the pH of the gastric contents. (pH should be below 6)
17. After placement is verified, clamp the end of the tube or connect it to suction or drainage.

a. Anchor the tube: Tape tube to nose; avoid putting pressure on nares. You may use tincture of Benzoin to assist in adhesion of tape. This prevents displacement of tube and breakdown of skin.

b. Carefully wrap the two split ends around the tube.

18. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.

19. Wash hands. Refer to the Hand Washing procedure.

20. Assess the client or caregiver's ability to maintain the tube and/or feeding regime at home.

21. Assess environmental safety and sanitation in home. Instruct client/caregiver to offer oral hygiene frequently and to keep lips moistened.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Size and type of nasogastric tube inserted.
- Characteristics of gastric contents.
- Purpose for the tube and related cares such as attaching to suction or establishing feeding program.
- The client’s tolerance of the procedure.
- Teaching done and assessment of learning.

Note: Auscultation is no longer considered a reliable method for verification of tube placement because a tube inadvertently placed in the lungs, pharynx, or esophagus can transmit a sound similar to that of air entering the stomach. (El-Gamel and Watson, 1993, Ghahremani and Gould, 1986, Metheny and other 1998a; Metheny NS ORHWEA 1998C) Procedure.

RELATED PROCEDURES

None

IRRIGATION OF NASOGASTRIC TUBE

PURPOSE

To maintain patency of the tube.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Catheter irrigation kit with 50 cc catheter-tip syringe
- Normal saline
- Towel
- Suction apparatus, if indicated
- Basin
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Verify tube placement and patency following the Insertion of Nasogastric Tube procedure.
4. Pour normal saline into irrigation container and draw up 30 ml into syringe.
5. Clamp connection tubing proximal to connection site. Disconnect tubing and lay end on towel.
6. Insert tip of irrigating syringe into end of nasogastric tube. Unclamp tube and slowly inject normal saline. Do not force solution.
7. If resistance occurs, check for kinks in the tubing and turn the client onto his/her left side. If resistance continues, notify the physician.
8. After injecting solution, pull back on syringe to aspirate fluid.
9. Measure the amount withdrawn from the amount injected. This is the amount of output. The fluid remaining in the stomach is measured as intake.
10. Reconnect the nasogastric tube to drainage or suction. If there is no return solution, repeat procedure.

11. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.
12. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure performed.
- Amount of solution instilled.
- Amount and characteristics of output.
- The client's tolerance of the procedure.

PEDIATRIC CONSIDERATIONS

Irrigation of a tube in a child requires a smaller volume of irrigating solution: 1-2cc for a small tube and 5-15cc or more for large ones.

RELATED PROCEDURES

Insertion of Nasogastric Tube

REMOVAL OF NASOGASTRIC TUBE

PURPOSE

To provide for discontinuation of nasogastric tube.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair of disposable gloves
- Towel
- Facial tissues
- Oral care supplies (toothbrush, toothpaste, toothettes, and mouthwash)

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Turn off suction. Disconnect from suction or drainage bag and clamp tube.
4. Drape towel across the client's chest.
5. Remove tape from nose. Unpin tube from clothing.
6. Provide the client with facial tissue.
7. Have the client hold breath, and pull out tube smoothly and steadily.
8. Place tube onto towel.
9. Clean nares and provide client with oral care.
10. Measure final output and dispose of equipment according to the Agency Waste Disposal Policy.
11. Remove gloves and wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Final output and characteristics of gastric contents.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

GASTROSTOMY TUBE CARE

PURPOSE

- To maintain gastrostomy tube patency.
- To prevent skin breakdown around site.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Bulb syringe
- Water in small container
- 4 x 4 gauze sponge and dressing supplies, if necessary
- Hypoallergenic tape if necessary
- Cotton-tipped applicators
- Soap and warm water, basin, wash cloth, and towel
- Disposable, non-sterile gloves

PROCEDURE

1. Explain the procedure to the client.
2. Assemble equipment and position the client to expose gastrostomy tube.
3. Inspect the skin at site for redness, tenderness, swelling, irritation, or drainage.
4. Wash hands. Refer to the Hand Washing procedure. Don clean gloves.
5. Gently cleanse peristomal area with soap and water using a spiral motion, beginning at the stoma site and working outward.
6. Use a cotton-tipped applicator to cleanse hard-to-reach areas.
7. Rinse and pat dry.
8. Apply dry dressing if leakage is a problem. In most cases, avoid a dressing because it promotes skin maceration.
9. Assess tension of gastrostomy tube:
    a. Check balloon volume every 7 to 10 days and replace to 20 ml to prevent accidental removal.

b. If there is no movement of the tube in and out of stoma, the tension is too tight. Decrease balloon size by 2 ml increments. Excessive tension could result in erosion of gastric mucosa.

c. Avoid taping gastrostomy tube to abdomen, if possible. If necessary, use hypoallergenic tape.

10. Verify tube placement by either withdrawing gastric content or by injecting 20 ml of air into the tube while simultaneously listening over the left upper quadrant with a stethoscope.

11. Discard disposable items according to the Agency Waste Disposal policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure, including assessment of site.
- Tube patency.
- Any other pertinent findings.

RELATED PROCEDURES

Changing a Gastrostomy Tube, Administration of Gastric Feedings

CHANGING A GASTROSTOMY TUBE

PURPOSE

To ensure proper replacement of a gastrostomy tube through a gastrostomy opening with minimal discomfort.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Foley catheter (recommended size 22 to 28 Fr. with 5 to 30 cc balloon per physician's order)
- 1-inch paper tape
- Precut (split) gauze sponge
- Two pairs of disposable gloves
- 10 to 30 cc syringe
- 10 cc syringe catheter-tip or Y-connector
- One clamp

***Note:** If the physician orders a tube other than a Foley catheter, the physician is responsible for placement.

PROCEDURE

***Note:** Initial placement/insertions of a gastrostomy tube is a surgical procedure and performed only by a physician. A phsyician's order is needed for changing or reinserting a gastrostomy tube.

1. Verify client identity.
2. Wash hands. Refer to the Hand Washing procedure.
3. Place the client in a supine position.
4. Don clean gloves.
5. Clamp tube and attach 10 cc syringe to injection port. Withdraw air or water.
6. Remove present tube. Clamp to prevent leakage.
7. Assess skin condition. Observe for any leakage, erythema, edema, or tenderness.
8. Lubricate end of new catheter.

9. Slowly insert catheter into gastrostomy site about five to six inches. Make sure the balloon is in the stomach.
10. Inflate balloon using syringe. Match the syringe size to the balloon size. Use air or water to inflate, following physician's orders.
11. Gently withdraw the tube until it is snug against the stomach wall. Mark tube at skin surface. Assists in assessing proper placement.
12. Remove excess lubricant.
13. Place a precut gauze sponge around tube and secure with one-inch paper tape.
14. Secure tube to skin.
15. Resume feedings and secure connection to administration tube with tape. If feedings are intermittent or if feedings are not being resumed immediately, clamp end of tube.
16. Label tube with date, time, and nurse's signature.
17. Remove gloves and dispose of used equipment according to the Agency Waste Disposal Policy.
18. Wash hands. Refer to the Hand Washing procedure.
19. Document in the clinical record:
    a. Date and time of tube change.
    b. Catheter type and size.
    c. The client's tolerance of the procedure.

DOCUMENTATION GUIDELINES

- Procedure
- Size of tube and balloon size
- Patency of tube
- Client tolerance of the procedure

RELATED PROCEDURES

None

ADMINISTRATION OF ENTERAL FEEDINGS: NASOGASTRIC TUBE (LARGE AND SMALL BORE)

Enteral nutrition refers to nutrients given via the gastrointestinal tract. Enteral feeding is preferred over parenteral nutrition because it improves utilization of nutrients, is generally safer for clients, maintains structure and function of the gut, and is less expensive. Enteral feedings are most commonly given via small bore tubes inserted through the nose and into the stomach or small intestine.

PURPOSE

- To provide nutrition to clients who cannot or will not eat.
- To provide nutrition to clients who cannot maintain adequate oral nutrition.
- To provide nutritional supplement for those who have increased energy requirements.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable gavage feeding bag and tubing, or a ready to hang system
- Enteral formula as prescribed by physician
- Catheter-tip or Luer-Lok syringe (60cc)
- Stethoscope
- Irrigation set with tap water
- pH indicator strip (optional)
- Infusion pump with pole for tube feeding administration, for continuous drip method of administration

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Prepare bag and tubing: Check expiration date on formula and integrity of feeding set. Have feeding at room temperature.
4. Connect tubing to bag, if they are not already together.
    a. Close clamp.
    b. Fill bag with prescribed amount of formula.

c. Open clamp and fill tubing with formula.

d. Reclamp.

e. Hang on pole.

5. Position the client in a high-Fowler's position or elevate head of bed 30 degrees. Elevate client's head to help prevent aspiration.

6. Verify feeding tube placement according to agency policy. Check the amount of aspirate. Return aspirated contents to the stomach unless volume exceeds 100-150cc (check agency policy and/or physician order). Flush tubing with 30 ml of water.

7. Initiate feeding.

8. Bolus or Intermittent Feeding Syringe:

   a. Pinch end of nasogastric tube. This prevents air from entering the stomach.

   b. Fill syringe with formula and attach it to end of tube.

   c. Elevate syringe to no more than 18 inches above the client's head and allow it to empty gradually by gravity.

   d. Continue to refill syringe and administer prescribed amount of formula.

9. Gavage Bag:

   a. If a gavage feeding bag is used, attach end of tubing to feeding tube and raise 18 inches above the client's head.

   b. Fill bag with prescribed amount of formula.

   c. Open clamp and allow infusing over approximately 30 -60 minutes.

10. **Continuous Drip Method:**

    a. Hang gavage bag on IV pole.

    b. Connect end of feeding set to feeding tube.

    c. Connect tubing through infusion pump and set rate of infusion.

    d. Turn pump on to administer. (Maximum hang time for formula is 8 hours in an open system or 24-48 hours in closed ready to hang system; check manufacturer's guidelines.

11. If feedings do not flow, re-verify tube placement. Irrigate tube with tap water following the Irrigation of a Nasogastric Tube procedure.

12. Administer any water per tube as ordered by the physician.

13. Following the intermittent infusion or at the end of a continuous infusion, flush tube with 30 cc of water, using an irrigating syringe. Repeat every 4-6 hours or give recommended amount of free water at intervals throughout the day. When feedings are not being administered, clamp the proximal end of the feeding tube.

14. After feedings, clean bag and tubing by rinsing with warm water.
15. Dispose of supplies according to the Agency Waste Disposal Policy.
16. Wash hands. Refer to the Hand Washing procedure.
17. Evaluate the amount of aspirate every 8-12 hours or as directed by the physician.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type and amount of feeding administered. Record amount of additional water given.
- Tube placement verification.
- Amount of aspirate.
- Patency of the tube. Client tolerance of procedure any adverse effects and notification of physician. Teaching done and client/caregiver response.

PEDIATRIC CONSIDERATIONS

Intermittent feedings are referred in infants because of potential complications with continuous feedings such as nasal airway obstruction, irritation. See gastrostomy feedings.

TEACHING GUIDELINES

- Keep opened feeding refrigerated between feedings, but administer at room temperature.
- Keep feeding tube clamped or capped between feedings.
- Avoid injecting air into stomach with irrigations and medication administration.
- If enteral feeding is to be used at home for longer than 1 to 2 weeks, gastrostomy tube may need to be placed.

RELATED PROCEDURES

Verification of Feeding Tube Placement, Irrigation of a Nasogastric Tube

ADMINISTRATION OF ENTERAL FEEDINGS: GASTROSTOMY OR JEJUNOSTOMY TUBE

Gastric feeding by gastrostomy tube is relatively safe to administer provided gastric emptying is normal. Research has shown that aspiration rates are about the same in clients with a gastrostomy tube as with nasogastric tubes (Metheny, 2000).

A gastrostomy tube is inserted in surgery. The tube is placed in the stomach and the tube exits in upper left quadrant of the abdomen. An alternative is a (PEG) tube percutaneous endoscopic gastrostomy tube. This tube also exits through a puncture wound in upper left quadrant of abdomen but is held securely in place by design.

A Jejunostomy tube is used when clients are at greater risk of aspiration or have delayed gastric emptying. This tube is placed in surgical procedure and advanced into the jejunum.

PURPOSE

To provide nutrition intermittently or continuously over longer periods of time.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable feeding container or ready to hang bag or bottle and tubing, as ordered
- Formula
- Catheter-tip syringe (60cc)
- Stethoscope
- Infusion pump designed for tube feedings and pole, for continuous drip method of administration

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Prepare bag and tubing:
    a. Connect tubing to bag, if they are not already together.
    b. Close clamp.
    c. Shake formula container well and Fill bag with prescribed amount of formula.

   d. Open clamp and fill tubing with formula.
   e. Reclamp.
   f. Hang on pole.
4. Position the client in a high-Fowler's position or elevate head of bed 30 degrees. Elevate the client's head to help prevent aspiration.
5. Verify feeding tube placement per policy.
   a. For a gastrostomy tube attach syringe and aspirate gastric secretions, observe appearance and check pH as ordered. pH range of 1 to 4 indicates gastric contents. A pH range of 6 to 7 indicates intestinal sites. This measurement verifies placement.
   b. Return the aspirated content to the stomach unless the residual is greater than 100-150cc or per orders, if volume is greater than 100 cc on consecutive occasions, notify the physician.
   c. Jejunostomy tube: aspirate intestinal secretions observe appearance and check pH.
6. Flush with 30 cc of water and initiate feeding.
7. Bolus or Intermittent Feeding Syringe:
   a. Pinch end of gastrostomy tube. This prevents air from entering the stomach.
   b. Fill syringe with formula and attach to end of tube.
   c. Elevate syringe to 18 inches above the client's head. Open tube and allow emptying gradually.
   d. Continue to refill syringe and administer the prescribed amount of formula.
8. Continuous Drip Method:
   a. Hang gavage bag on IV pole.
   b. Thread tubing into the pump according to manufacturer's direction.
   c. Connect end of tubing to feeding tube.
   d. Set rate on pump.
   e. Begin infusion at prescribed rate.
9. If feedings do not flow, reverify tube placement and irrigate tube with tap water.
10. Administer any water per tube as ordered by the physician.
11. When feedings are not being administered, clamp the proximal end of the feeding tube.
12. After feedings, clean bag and tubing by rinsing with warm water.
13. Dispose of supplies according to the Agency Waste Disposal Policy.
14. Wash hands. Refer to the Hand Washing procedure.

15. Flush tube with water before and after administering medications, or to give prescribed amount of free water per day.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type and amount of feeding administered.
- Tube placement verification and patency of the tube.
- Amount of aspirate.
- Any untoward side effects. Condition of gastrostomy/jejunostomy site.
- The client's tolerance of the procedure.
- Teaching done and evaluation of learning.

PEDIATRIC CONSIDERATIONS

- A gastrostomy button may be used for children to decrease the potential that the tube could be pulled out or dislodged and for increased comfort.
- The button has an adapter to allow for syringe feeding or to connect to tubing for infusion.

RELATED PROCEDURES

Verification of Feeding Tube Placement

BUTTON GASTROSTOMY CARE AND FEEDING

The button is a soft silicone tube that has a mushroom like dome on the end which is placed in the stomach. The dome is inserted through the gastrostomy stoma is radiopaque (can be seen on x-ray), and will hold the button in place. The part of the button that is seen on the skin of the child has two small wings that keep the button from slipping through the opening.

The button opening has a cap that is left in place between feedings. Inside the button tube is a valve that keeps the feeding from coming out of the tube (anti reflux valve). This does not allow aspiration from the button. Tubes can be in place for several months without having to be changed.

Routine Care:

- Wash the skin around the Button with mild soap and water. Dry skin well.
- When the button is new, the button should be turned a full circle during each cleaning to keep it from sticking to the skin. This is not necessary once the site is healed.

SUPPLIES

- Bolus feeding tube
- Formula to be given
- Catheter-tip syringe (60cc)
- Stethoscope
- Infusion pump designed for tube feedings and pole, for continuous drip method of administration

PROCEDURE

1. Identify client.
2. Wash hands per Hand Washing procedure.
3. The same method of feeding used with the regular G-tube is used with the button. In each package there are two types of feeding tubes which connect to the button:
    a. The bolus feeding tube is a straight tube which can be connected to a syringe which contains the feeding. The other end will fit into the button.
    b. If feedings are administered over a period of hours, the continuous feeding tube
    has a right angle that will turn and is less likely to be pulled out of the button during drip feedings.
4. Check for residual by attaching a syringe to the tube and gently pulling back on the plunger. If residual is within acceptable limits per orders, give the aspirate back to the child.

5. The way the child is fed, amount of feeding and equipment used will be the same as with G-tube feeding. Remove the plunger from the syringe, attach syringe to the feeding tube and pour feeing into the syringe. Release the tube and let the feeding flow by gravity.
6. After each feeding, 5-10 ml of water should be run through the tube to flush the button. Remove the feeding tube and close the flap. Feeding will not come back up the tube because there is a one-way valve in the tube.
7. Place child on right side with head elevated at 30-degree angle.
8. Feeding tubes is washed with warm water and allowed to dry after each feeding. Be sure to rinse the tubes will with warm water.

Cleaning and Storing Equipment

- Wash feeding tube after each feeding with hot soapy water, rinse well and let dry.
- Once a week wash the feeding tubes with vinegar and water mixture.

Notify Physician if:

- Bloody residual.
- Residuals greater than amount identified. (will vary with size of the client).
- Distention of abdomen.
- Leaking formula.
- Tissue build up around the gastrostomy tube.
- Button is clogged and unable to flush.
- Button comes out.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure completed.
- Amount of residual.
- Condition of skin.
- Feeding time and duration.
- Amount and type of feeding formula.
- Client tolerance of procedure.
- Findings and interventions.

BOWEL PROGRAM/DIGITAL STIMULATION

PURPOSE

To manually remove stool.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable gloves
- Water-soluble lubricant
- Waterproof, absorbent pads
- Bedpan
- Wash basin
- Washcloths, towels, soap
- Suppository as ordered by the physician

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Position the client in the left side-lying position with knees bent.
4. Place waterproof, absorbent pad under the client's buttocks.
5. Place bedpan next to the client.
6. Lubricate index finger of dominant hand.
7. Slowly insert index finger into client's rectum.
8. Gently loosen fecal mass by massaging around it. Instruct the client to take deep breaths during the procedure.
9. Insert finger into mass to loosen into small pieces for removal.
10. Move small pieces down to the rectum and remove. Place in bedpan.
11. Continue to remove as much feces as possible. Periodically assess the client for fatigue or a decrease in heart rate.
12. Insert suppository as ordered and leave in the prescribed amount of time.
13. Repeat steps 6 through 11.
14. Wash buttocks and dry with towel. Reposition the client.

15. Remove bedpan and dispose of feces in the toilet.
16. Remove gloves. Clean reusable equipment and dispose of disposable supplies according to Agency Waste Disposal Policy.
17. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure performed.
- Suppository administered, if any.
- Stool results.
- The client's tolerance of the procedure.

RELATED PROCEDURES

Bowel Program

ADMINISTRATION OF ENEMAS

An enema is the installation of a solution into the rectum and sigmoid colon. An enema is given to treat constipation or to cleanse the bowel for diagnostic procedures.

PURPOSE

To promote defecation.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

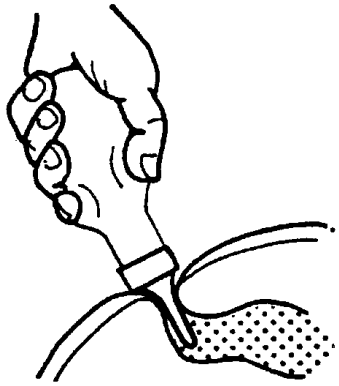
- Disposable gloves
- Water-soluble lubricant
- Waterproof, absorbent pads
- Toilet paper
- Bedpan, commode, or access to toilet
- Wash basin
- Washcloths, towels, and soap
- Prepackaged enema container with rectal tip OR enema bag administration
- Enema container with tubing and clamp
- Appropriate size rectal tube:
    - Adults: 22 to 30 Fr.
    - Children: 12 to 18 Fr.
- Volume of warmed solution as ordered
- Bath thermometer
- Types of enemas:
    - Tap water (hypotonic)
    - Physiologic normal saline (safest for all including children)
    - Hypertonic solution, i.e., Fleets (used for clients who cannot tolerate large volumes of fluid)
    - Soap suds solution (use only castile pure soap) can be added to water or saline
    - Oil retention (small volume oil based solution that is absorbed by stool and softens for easier evacuation)
    - Carminative (provides relief from gaseous distention) mixture that contains magnesium, glycerin and water

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.

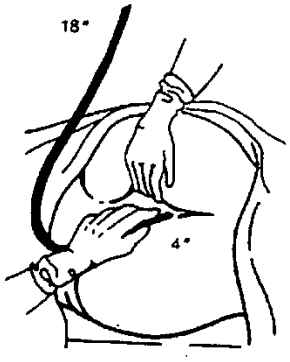
2. Don clean gloves.
3. Position the client in the left-side lying position with knees bent. If the client has poor sphincter control, place in dorsal recumbent position on bedpan.

4. Place waterproof, absorbent pad under hips and buttocks.
5. Administration of Prepackaged Enema:
    a. Remove cap from lubricated rectal tip. Add more lubricant as needed.
    b. Insert entire rectal tip slowly into rectum. Instruct client to take slow, deep breaths:
        - For adults, insert 3 to 4 inches.
        - For children, insert 2 to 3 inches.
        - For infants, insert 1 to 1 1/2 inches.
    c. Squeeze bottle until all the solution has been administered.



6. Administration of Enema with Bag:
    a. Prepare enema solution. Use warm tap water or warm in basin of hot water. Check temperature using a bath thermometer or pour a small amount over the inner wrist.
    b. Raise bag, open clamp, and allow solution to fill tubing. Close clamp.
    c. Lubricate insertion tip with water-soluble lubricant.
    d. Insert rectal tip slowly into rectum. Instruct client to take slow, deep breaths:
        - For adults, insert 3 to 4 inches.

- For children, insert 2 to 3 inches.
- For infants, insert 1 to 1 ½ inches.



e. Holding tubing securely, open clamp and raise bag to the appropriate level:
   - For adults, 12 to 18 inches for high enema.
   - For children, 12 inches for low enema.
   - For infants, 3 inches.

f. If the client complains of cramping, lower the container and slow or stop flow. Continue to use stop-and-start procedure until all fluid is administered.

g. When all the fluid has been administered, clamp tubing.

7. Place toilet paper around tube at anus and slowly withdraw tube.
8. Instruct the client to try to retain solution as long as possible (average 5 to 10 minutes), squeezing buttocks together.
9. Assist the client onto bedpan, commode, or to toilet.
10. After the client has expelled all feces and solution, assist in washing buttocks.
11. Reposition the client.
12. Remove gloves and dispose of equipment according to the Agency Waste Disposal Policy.
13. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

- Document in the clinical record:
- Color consistency and amount of stool and fluid passed Characteristics of stool.
- Procedure performed with type of solution administered.
- The client's tolerance of the procedure.

PEDIATRIC CONSIDERATIONS

Children and infants usually do not receive prepackaged hypertonic enemas.

RELATED PROCEDURES

None

OSTOMY CARE

An ostomy is an opening made to allow passage of urine or feces. The piece of intestine that is brought out to the abdominal wall is called a Stoma. The forms of enterostomy are Ileostomy, which involves the Ileum of the small intestine, and colostomy, which can involve various segments of the colon. Ostomies may be temporary or permanent.

Intact skin barriers with no evidence of leakage do not need to be changed daily and can remain in place for 3 to 5 days. (Ayello, 2000).

Pouching system options include:

- Adhesive and non-adhesive systems available for both urinary and fecal drainage.
- One-piece pouch with skin barrier already attached; precut pouch and skin barrier; or a two-piece pouch system that consists of pouch that can detach from skin barrier that remains around the stoma for several days.

The bottom of the ostomy pouch is either open ended, closed only with a clip or some other type of device between emptying or closed ended. One piece pouches should be open ended that can be opened periodically for emptying. Two piece pouches provide a choice because the client can remove the pouch from the skin barrier to empty.

PURPOSE

- To provide guidelines for pouching an enterostomy.
- To allow for examination of skin around stoma.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Pouch, clear drainable colostomy/Ileostomy in correct size for two piece system or custom cut to fit one piece type with attached skin barrier
    - Pouching systems may be drainable or closed-bottomed, disposable or reusable, adhesive-backed, or one-piece or two-piece.
- Barrier paste
- Pouch clamp
- Clean gloves
- Gauze pads or washcloth

- Towel
- Basin with warm tap water
- Scissors
- Skin-sealant wipes, tape or ostomy belt
- Hand-held blow dryer
- Adhesive remover (optional)
- Ostomy deodorant

PROCEDURE

1. Position the client in standing or supine position.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Remove used pouch. Gently push skin away from the barrier. Save clamp on pouch.
5. Gently cleanse stoma and surrounding skin using gauze pads or paper towels. Do not scrub the skin.
6. Dry skin by patting with towel. Use a hand-held blow dryer on a cool setting to dry thoroughly.
7. Assess skin condition.
8. Measure the stoma and cut the appliance opening 1/16 to 1/8 inch larger than the stoma. Fold up bottom of pouch and apply clamp.
9. Apply sealant wipe to skin around stoma and let dry thoroughly.
10. Apply barrier paste to appliance around opening.
11. Place barrier over stoma and press down gently. The bottom opening of the pouch should point toward the client's knees if the client is ambulatory and to the down side of the abdomen if the client is bed bound.
12. Maintain gentle pressure around the appliance for one to two minutes. This maintains a secure seal to prevent leaking.
13. If using a two-piece pouch, slowly peel off adhesive backing and smooth onto skin. Apply pouch. Check to verify placement.
14. Remove gloves and dispose of old pouch and supplies according to the Agency Waste Disposal Policy.
15. Wash hands. Refer to the Hand Washing procedure.
16. Change pouch every five to seven days, unless leaking. Skin quickly becomes excoriated with exposure to stool.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type of pouch and skin barrier applied. Amount and appearance of stool or drainage in pouch, size of stoma, color and consistency of stool, condition of skin.
- The client's participation in the process, if any.
- Teaching done and client response to teaching.

PEDIATRIC CONSIDERATIONS

- Colostomies done in infants are often temporary and done for emergency situations.
- Use equipment designed by manufacturers to be used with pediatric clients.
- Characteristics of pouch skin barriers for pediatric clients are:
    - Flexible to cover infant's rounded abdomen.
    - Thin enough to avoid undermining of stool beneath skin barrier.
    - Large enough to accommodate multiple stomas in one skin barrier.

RELATED PROCEDURES

None

COLOSTOMY IRRIGATION

PURPOSE

- To empty the bowel of its contents.
- To manage bowel elimination.
- To prevent intestinal obstruction.
- To regulate bowel function.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Ostomy pouch and skin barrier or stoma cap cover
- Ostomy irrigation set that includes solution bag with fluid control clamp and cone tip
- Irrigation sleeve with belt tabs or stick on ring and end closure device
- Water-soluble lubricant
- Warm tap water
- Disposable gloves
- Toilet facilities that include a flushable toilet, a hook or some device to hold irrigation container, toilet tissue and running water
- Bedpan for clients who are unable to get to bathroom
- Waterproof pad
- Ostomy deodorant

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Position the client on the toilet, next to or in front of the toilet, or lying on his/her side in bed.
3. Don clean gloves.
4. Remove used pouch and appliance. Cleanse and dry stoma site following the Ostomy Care procedure.
5. Remove gloves and wash hands. Refer to the Hand Washing procedure.
6. Apply irrigation sleeve over stoma. Allow the tip of the sleeve to rest in the toilet or bedpan.

7. For adult clients, fill irritation bag with 500 to 1000 ml of warm tap water. Clear the tubing of air and close the clamp. The water temperature should not exceed 100 to 105 degrees Fahrenheit.
8. Hang the bag approximately 18 inches above the stoma.
9. Lubricate tip of catheter and gently insert tube into stoma. If using a cone-tip catheter, hold it snugly against the stomal opening. If the client complains of pain or if there is difficulty inserting the catheter, discontinue procedure and notify the physician.
10. Open the clamp and allow water to flow in over a 5- to 10-minute period.
11. Return flow will drain out through the irrigation sleeve.
12. Allow 15 to 20 minutes for the initial return. If desired, the client can fold up the tip of the sleeve, clamp it at bottom, and ambulate for approximately 30 minutes. Massaging the abdomen may also assist in the process.
13. Unclamp sleeve and remove any additional fecal material.
14. Remove sleeve.
15. Apply new appliance following the Ostomy Care procedure.
16. Clean irrigation sleeve and equipment with liquid cleanser and cool water according to the Agency Waste Disposal Policy. Hang sleeve to dry.
17. Remove gloves and wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

- Document in the clinical record:
- Procedure performed.
- Time began; time completed.
- Type and amount of solution instilled.
- Characteristics of return flow.
- Skin condition.
- Reapplication of appliance.
- Pain during procedure or difficulty inserting catheter, if applicable.

PEDIATRIC CONSIDERATIONS

- Irrigations to regulate bowel movements are usually not done for pediatric clients. May be done for clean out purposes for pediatric clients with Hirschsprung's disease.
- Amount of irrigation solution differs from adults. Physician orders the amount to use based on the client's weight and size.

RELATED PROCEDURES

Ostomy Care

INSERTING RECTAL TUBE

PURPOSE

To relieve the discomfort of distention and flatus caused by decreased motility.
Contraindicated in recent rectal or prostatic surgery clients, and clients with recent myocardial infarction.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Chux
- Stethoscope
- Water-soluble lubricant
- #22-32 French catheter (rectal tube) of soft rubber or plastic container such as a plastic bag, specimen cup or bottle with vent
- Tape
- Gloves

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to Hand Washing Procedure.
3. Explain procedure to client.
4. Check for abdominal distension and with stethoscope. Listen for bowel sounds.
5. Place chux or other pad under client buttocks.
6. Position the client on left side.
7. Put on gloves.
8. Lubricate the tube with water soluble lubricant to ease insertion.
9. Insert the rectal tube tip into the rectum and advance 2-4 inches. Direct the tube towards the umbilicus.
10. Encourage client to breathe slowly and deeply or that he/she bear down to relax the anal sphincter.
11. Tape the tube to the buttocks.

12. Attach the tube to the container to collect any drainage.
13. Remove tube after 15-20 minutes. Procedure may be repeated in 2-3 hours as needed.
14. Re-check for abdominal distension.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of procedure.
- Amount, color and consistency of any drainage.
- Physical signs and symptoms including appearance and presence of bowel sounds.

RELATED PROCEDURES

None

EYE MEDICATIONS: DROPS AND OINTMENTS

PURPOSE

To ensure the safe and correct administration of eye medications.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Medication bottle with sterile eye dropper or ointment tube
- Cotton ball or facial tissue
- Disposable gloves
- Washbasin and washcloth, if the client has eye drainage
- Eye patch and tape, if ordered by physician

PROCEDURE

1. Verify client identity per agency policy.
2. Verify medication order/prescription label and expiration date.
3. Wash hands. Refer to the Hand Washing procedure.
4. Don clean gloves.
5. Position the client in supine position or in a chair with head tilted back, if appropriate.
6. If the client has eye drainage, wash the eye(s) before beginning the procedure.
    a. Fill washbasin with warm water.
    b. Apply damp washcloth over eye and let soak several minutes to loosen any drainage.
    c. Remove drainage by wiping from inner to outer canthus.
7. Hold cotton ball or clean tissue in non-dominant hand just below the client's Lower eyelid on the cheekbone.
8. Gently press downward against the bony orbit with thumb or forefinger.
9. Instruct the client to look up and away. This reduces stimulation of blink reflex.
10. Eye drops:

a. Hold medication bottle in dominant hand and position dropper approximately ½ to ¾ inches above the conjunctival sac while resting hand on the client's forehead.

b. Instill the prescribed number of drops into the conjunctival sac. This ensures the medication is spread evenly across the eye.

c. Have the client gently close eyes.

d. If more than one eye drop medication is ordered, wait a few minutes between instilling the medications.

11. Eye ointments:

a. Hold ointment tube above conjunctiva while resting hand on the client's forehead.

b. Apply thin stream of ointment evenly along the inside edge of the lower eyelid on the conjunctiva. Apply ointment from the center outward.

c. Have the client look down and apply a thin stream of ointment along the upper lid margin on the inner conjunctiva.

d. Have the client close eye. If not contraindicated, have the client rub the eyelid lightly with a cotton ball in a circular motion.

12. Wipe any excess solution or ointment with cotton ball or tissue from center of eye outward.

13. If the client requires an eye patch, replace with clean eye patch and secure with tape. Ensure that entire eye is covered and avoid pressure to eye.

14. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance of eye including any signs of redness, swelling, or drainage.
- Medication applied location, dose and patient tolerance.
- Instructions given to client/caregiver.
- Physician notification and order changes as appropriate.

RELATED PROCEDURES

None

INSERTING AND REMOVING AN EYE MEDICATION DISK

An eye medication disk is a small and flexible disk that has three layers. The middle layer contains the medication. The disk frees the client from having to remember to instill eye drops. The disk can release medications for up to a week before needing replacement.

Contraindication includes conjunctivitis, retinal detachment or any condition where constriction of the pupil should be avoided.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

PROCEDURE

1. Verify client identity.
2. Verify orders.
3. Wash hands and put on gloves.
4. Press your fingertip against the oval disk so it sticks to your fingertip. Lift the disk out of the package.
5. Gently pull the lower eyelid away from the eye and place the disk in the conjunctival sac. It should lie horizontally and not vertically. The disk will adhere to the eye.
6. Pull the lower eyelid out, up and over the disk. Tell the client to blink several times. If the disk is still visible pull the lower lid out and cover the disk again. (Instruct the client that he/she can adjust its position by gently pressing against his closed lid*).* If the disk falls out, wash your hands, rinse the disk in cool water and reinsert it. If it is bent, replace with a new disk.
7. Because it is recommended that the disk be put in before bedtime, instruct client and caregiver of this procedure.
8. Teach client about possible adverse reactions: mild tearing or redness, increased mucous discharge, redness and itching of eyelid. If using pilocarpine, blurred vision, stinging, swelling, and headaches may occur.

9. Removing the disk:
    a. The disk may be removed with one or two fingers. To use one finger put on gloves and evert the lower lid to expose the disk. Use the forefinger of the other hand to slide the disk onto the lid and out of the eye.
    b. To use two fingers to remove the disk—evert the lower lid with one hand to expose the disk, pinch the disk with the thumb and forefinger of other hand and remove from the eye.
    c. If the disk is located in the upper eyelid, have client close eyes and gently stroke the closed eyelid until you can see the disk in the corner of the eye.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication dose instilled or applied.
- Date and time.
- Teaching done and return demonstration if appropriate.
- Any adverse effects.
- Client response.

RELATED PROCEDURES

None

EAR INSTILLATIONS AND IRRIGATIONS

PURPOSE

- To treat an infection and reduce inflammation.
- To administer medications into the ear.
- To irrigate or remove impacted cerumen or purulent discharge from the ear.
- To improve impaired hearing caused by ear wax.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Medication and or irrigation solution as ordered
- Small bulb syringe
- Sterile basin for irrigating solution
- Basin or bowl for drainage
- Cotton balls and cotton tipped applicators
- Plastic sheet or garbage bag
- Disposable gloves

PROCEDURE

Medication Administration:

1. Verify client identity and physician order.
2. Wash hands. Refer to the Hand Washing procedure. Follow infection control guidelines.
3. Don clean gloves.
4. Have the client sit on side of bed, lie on side with the ear to be medicated up, or
5. Sit up in chair, as appropriate.
6. Straighten ear canal:
    a. For adults, pull auricle upward and outward.
    b. For children, pull auricle down and back. This provides direct access to deeper external ear structures.
7. With cotton-tipped swab, gently wipe out drainage or wax, if present. Do not force wax back inward to block or occlude ear canal.

8. Hold the dropper ½ inch above the ear canal. Instill drops as prescribed.
9. Apply gentle pressure or massage to tragus of the ear. This moves medication down ear canal and assists to completely distribute the medication.
10. If ordered by the physician, insert a portion of the cotton ball into the outermost part of the canal and remove after 15 minutes.
11. If ordered, repeat the medication in the other ear after waiting 10 to15 minutes.
12. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.

Irrigations:

1. Follow steps 1-4 as above.
2. Irrigation solution should be at body temperature.
3. Place basin under client's ear.
4. Client may hold if he/she is able. Fill syringe with irrigation solution, expel air, and insert the tip of syringe into the external ear canal.
5. Irrigate as prescribed (Stop immediately if client complains of pain).
6. Dry the external canal.
7. Position client on affected side for few minutes to promote drainage
8. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication name, dose, route, and time of administration.
- Appearance of ear and any drainage.
- Color, consistency and amount of any discharge or drainage.
- Client response to treatment instruction given.

RELATED PROCEDURES

Ear Irrigation

NASAL MEDICATIONS

PURPOSE

- To promote the safe and correct administration of nasal medications.
- To reduce inflammation and congestion of nasal passages and mucous membranes.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Prepared medication with clean dropper or spray container
- Facial tissue
- Disposable gloves
- Pillow

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Have the client gently blow his/her nose. Do not do so if contraindicated, i.e., if there is a risk of nose bleeds or increased intracranial pressure.
4. Position the client in supine position with a pillow under the shoulders, allowing the head to drop back; or if the client is in a chair, tilt the head backward, as appropriate.
5. Support the client's head with non-dominant hand and instruct the client to breathe through the mouth.
6. Instill the prescribed amount of medication, holding the dropper or spray container approximately 1/2 inch above the nares. Direct the flow of medication toward the floor of the nasal cavity.
7. Have the client remain in the same position for approximately 5 minutes after instilling medication.
8. Assist the client to a sitting position and blot nose if runny. Caution the client against blowing the nose.
9. Remove gloves and dispose of supplies and clean equipment according to the Agency Waste Disposal Policy.
10. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication name, dose, route, and time of administration.
- Condition of nasal passages and any drainage.
- Teaching done and client ability to demonstrate procedure any other pertinent findings.

RELATED PROCEDURES

None

PREPARING INJECTIONS FROM AMPULES AND VIALS

PURPOSE

To prepare medications for the injection of medications.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Ampule or vial of medication
- Syringe and needle or needleless access device
- Alcohol prep pad
- Sharps container
- Small gauze pad – optional (for ampules only)
- Diluent - normal saline or sterile water (for vials only)

PROCEDURE

1. Verify client identity and medication order per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Connect needle to syringe if not already prepared in packaging.
4. Ampule preparation:
    a. Tap top of ampule with finger to move medication below neck of ampule.
    b. Place gauze pad or unwrapped alcohol prep pad around neck of ampule.
    c. Snap quickly and firmly away to break at neck of ampule.
    d. Hold ampule at an angle or set on flat surface.
    e. Pick up syringe and remove needle cap.
    f. Insert needle into ampule opening. Do not allow needle to touch outside of ampule as the needle will then be considered contaminated.
    g. Gently pull back on syringe plunger to aspirate medication into syringe. You may need to tip ampule to obtain all of medication. Keep needle tip below surface of the medication.
    h. Hold syringe with needle pointing up to express air bubbles.
    i. Tap side of syringe to bring bubbles up toward the needle.

j. Pull back slightly on plunger, and then expel air. Be careful not to eject the medication.

k. Recheck medication dose in syringe. Dispose of excess medication in syringe into the sink.

l. Change needle if medication is on the needle shaft.

m. Dispose of supplies according to the Agency Waste Disposal Policy. Dispose of ampule and any used needles in sharps container.

n. Wash hands. Refer to the Hand Washing procedure.

5. Vial preparation (single dose or multi dose vials):

a. Remove metal cap on top of vial to expose rubber seal.

b. Cleanse rubber seal with alcohol prep pad.

c. Pick up syringe and remove needle cap.

d. Draw necessary amount of air into syringe by pulling back on plunger. The amount of air should equal the volume of medication needed.

e. Place the vial of medication on a flat surface and insert tip of needle through the center of the rubber seal. Aim straight down.

f. Inject air into vial.

g. Hold onto plunger and invert vial. Position vial between thumb and middle fingers on non-dominant hand.

h. Grasp end of syringe and plunger with thumb and forefinger of dominant hand.

i. Position needle tip below the fluid level.

j. Allow medication to flow into syringe (air pressure). Pull back slightly on plunger if necessary until desired amount is obtained.

k. Tap side of syringe to bring bubbles up toward the needle.

l. Pull back slightly on plunger, and then expel air. Do not eject fluid.

m. Remove syringe from vial. Change needle before administration. Needle may be dulled.

n. If multi-dose vial, label with date and drug concentration.

o. Dispose of supplies.

p. Wash hands. Refer to Hand Washing procedure.

6. Reconstituting Medication:

a. Remove metal caps from medication vial and diluent.

b. Cleanse both with alcohol prep pad.

c. Draw up diluent following steps 4 c-p.

d. Insert tip of needle into medication vial. Inject diluent into vial.
e. Mix medication thoroughly.
f. Draw up reconstituted medication. Verify dose to be given.
g. Dispose of supplies.
h. Wash hands. Refer to Hand Washing procedure.

7. Proceed to administer medication per appropriate procedure.

RELATED PROCEDURES

None

SUBCUTANEOUS INJECTIONS

PURPOSE

To administer medication into the subcutaneous tissue space.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 1 to 3 ml syringe
- Needle (25 - 27 gauge, 3/8 to 5/8 inch)
- Alcohol prep pads
- Disposable gloves
- Medication to be administered
- Sharps container and trash bag

***Note:** Fluid volume is not to exceed 1.5 ml for adults, 1.0 ml for children and 0.5 ml for infants per single injection.

PROCEDURE

1. Verify client identity and medication order per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Select appropriate injection site.
    a. When administering heparin, use abdominal injection sites.
    b. When administering daily insulin injections, rotate injection site daily.
    c. The ADA recommends using the abdomen as the primary site for insulin injections.
5. Prepare medication according to the *Preparing Injections from Ampules and Vials* procedure.
6. Assist the client to a comfortable position.
7. Select administration site. Cleanse the injection site with alcohol prep pad. Start at center and rotate outward in circles approximately two inches.
8. Remove needle protector, pulling it straight off.

9. Pinch skin slightly with thumb and forefinger. Holding syringe between thumb and forefinger, firmly and quickly insert needle at 45- to 90-degree angle. Angle varies with length of needle and amount of subcutaneous tissue.
10. Secure syringe with non-dominant hand. Using dominant hand, slowly pull back on the plunger to aspirate. If blood appears in the syringe, the needle is in a vein. Withdraw needle, discard, and begin procedure again. Don't aspirate for blood return when giving insulin or heparin. It is not necessary and may cause a hematoma with heparin.
11. Slowly inject medication.
12. Withdraw needle and cover site with alcohol prep pad.
13. Massage site gently. If heparin or insulin is administered, do not massage.
14. Dispose of needle and syringe in sharps container. **Do not recap needles.**
15. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.
16. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication name, dose, route, site, and time administered.
- Report of any adverse reactions given to the physician.
- Client tolerance of the procedure.
- Report any observations of injection sites.

RELATED PROCEDURES

Preparing Injections from Ampules and Vials, Insulin Mixing

GOLD INJECTION

PURPOSE

To reduce Inflammation, swelling and pain due to rheumatoid arthritis.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Medication dosage as ordered by physician
- 3ml syringe and 19- to 23-gauge needle (1.5 - 2 inches)
- Alcohol wipes
- Disposable gloves
- Sharps container

SPECIAL CONSIDERATIONS

- Normal color of gold is pale yellow - should not be used if color has darkened.
- Clients receiving gold injections should have urine proteins checked and baseline laboratory tests.
- Dose should not be given if urine protein is positive.
- Gold injections have many side effects that may include dermatitis, skin pigmentation changes with itching, stomatitis (sore mouth).
- Significant side effects such as renal dysfunction and laboratory changes such as low hemoglobin, low platelet count and decreased white count are possible.
- If there is no evidence of improvement in symptoms in 3 months, the drug should be discontinued.
- Any signs of infection or bruising should be reported to the physician.

PROCEDURE

1. Verify client identity and medication order.
2. Wash hands. Refer to the Hand Washing procedure.
3. Gather equipment and explain the procedure to the client.
4. Place client in a reclining position.
5. Follow procedure for Intramuscular Injections.
6. Observe client for 15 minutes following the procedure and monitor for signs of anaphylaxis.
7. Dispose of equipment in sharps container and plastic trash container.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The administration of the medication and client tolerance.
- Appearance of injection site and previous sites.
- Teaching completed and client response.
- Physician notification as applicable.
- Any laboratory results pertinent to the procedure.

RELATED PROCEDURES

None

INTRAMUSCULAR INJECTIONS/Z-TRACK

Z track method of injection prevents leakage or tracking into the subcutaneous tissue. It is usually used to administer drugs that irritate and discolor subcutaneous tissue – primarily iron preparations. May also be used in elderly clients who have decreased muscle mass.

Never inject more than 5 ml of solution into a single site using z track method. Alternate gluteal sites for repeat injections.

PURPOSE

To administer medication into the deep muscle tissue for absorption and systemic effect.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Syringe:
  - Adult: 2–3 ml syringe
  - Children/infants: 1–2 ml syringe
- Needle must be long enough to reach the muscle. Use one needle to draw up medication and new needle to inject.
  - Adult: 20 gauge, 1–1 ½ inches
  - Children/infants: 25–27 gauge, ½ to 1 inch
- Alcohol prep pads
- Disposable gloves
- Medication ampule or vial
- Sharps container and trash bag

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Explain procedure to client.
3. Don clean gloves.
4. Select appropriate injection site. Assess size and integrity of muscle. Palpate for areas of tenderness or hardness. Note areas of bruising or infection. Possible sites include:
   a. Vastus lateralis.
   b. Ventrogluteal.
   c. Dorsogluteal.

d. Deltoid.

5. Prepare medication according to the Preparing Injections from Ampules and Vials procedure.
6. Assist the client into a comfortable position, depending on the site chosen. Relocate site. If administering injection to a child, secure the child for the procedure to prevent injury.
7. Cleanse the injection site with alcohol prep pad. Start at center and rotate outward in circles, approximately two inches.
8. Remove needle protector, pulling it straight off.
9. Position syringe with needle at a 90-degree angle.
10. Inject needle:
    a. Spread the skin of the injection site taut with the thumb and index finger of non-dominant hand.
        - For adults and children, inject needle quickly at 90-degree angle into the muscle.
        - For infants (vastus lateralis), inject needle quickly at 45-degree angle, pointed toward the knee.
    b. Use the Z-track method for medications that are likely to cause irritation and/or staining of skin:
        - Create air lock by drawing up 0.2 ml of air into syringe.
        - Pull the overlying skin and subcutaneous tissue, approximately 1 - 1 1/2 inches laterally to the side.
        - Hold the skin taut with the non-dominant hand and inject needle deep into the muscle.
11. Secure syringe with non-dominant hand. Using dominant hand, slowly pull back on the plunger to aspirate. Avoid moving the syringe. If using Z-track method, hold skin tightly with non-dominant hand. If blood appears in the syringe, the needle is in a vein. Withdraw needle, discard, and begin procedure again.
12. Slowly inject medication.
13. Withdraw needle and cover site with alcohol prep pad. If using Z-track method, maintain needle in place for ten seconds after injecting the medication. Release skin after withdrawing the needle.
14. Massage site gently. **DO NOT MASSAGE INJECTION SITE IF Z-TRACK METHOD IS USED.**
15. Remove alcohol prep pad and assess injection site.
16. Dispose of needle and syringe in sharps container. **Do not recap needles**.

17. Remove gloves and dispose of supplies per Agency Waste Disposal Policy.
18. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in clinical record:

- Medication name, dose, route, site, and time administered. caregiver instructions and response to teaching assessment of site and any pertinent findings.
- Report of any adverse reactions given to the physician.

RELATED PROCEDURES

Preparing Injections from Ampules and Vials

INTRADERMAL INJECTIONS

Ventral forearm is preferred site because of easy access and lack of hair.

PURPOSE

To perform skin testing (i.e., allergy tests and tuberculin screening).

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 1cc tuberculin syringe with ½ inch, 26- or 27-gauge needle
- Alcohol prep pads
- Prescribed medication
- Disposable gloves
- Sharps container and disposal bag

PROCEDURE

1. Verify client identity and physician order.
2. Wash hands. Refer to the Hand Washing procedure.
3. Prepare the syringe:
    a. Withdraw slightly more than the prescribed amount of medication into the syringe. Only small amounts of medication (0.01 to 0.1 cc) are injected intradermally.
    b. Hold syringe upright and tap lightly.
    c. Expel air and one drop of solution.
    d. Verify that the prescribed amount of medication remains in the syringe.
4. Don clean gloves.
5. Assist the client into a comfortable position with elbow and forearm extended and supported on a flat surface.
6. Identify injection site. The preferred site is on the volar or dorsal surface of the left forearm, about four inches below the elbow.
7. Apply swab at the center of the site and rotate outward in a circular motion about two inches. Cleanse the injection site with an alcohol swab and allow to dry thoroughly.

8. Remove needle cap from the needle and place syringe between the thumb and forefinger of the dominant hand.
9. With the bevel side up, hold the needle at a 10- to 15-degree angle and insert the needle slowly under the first one or two layers of skin until resistance is met.
10. Slowly inject the medication. You should feel resistance. If not, the needle is too deep. Remove the needle and begin again.
11. A firm, white wheal or bubble about 6–10 mm in diameter should appear on the skin's surface at the injection site. A wheal or bubble indicates that the medication is in the dermis.
12. Withdraw needle while applying the alcohol swab gently over the injection site. Do not massage the site.
13. Dispose of syringe and needle in sharps container.
14. Draw a circle around the perimeter of the injection site.
15. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.
16. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication name, dose, route, date and time administered.
- Injection site. Document reaction (positive or negative) for skin testing.
- Report adverse reactions to physician.

RELATED PROCEDURES

None

TB/MANTOUX SKIN TEST

PURPOSE

To identify infection (Mycobacterium tuberculosis) by injecting tuberculin purified protein derivative (PPD) into the inner surface of the forearm.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 1cc tuberculin syringe with 1/2 inch, 26- or 27-gauge needle
- Alcohol prep pads
- PPD solution (0.1 ml of 5 tuberculin units)
- One pair of disposable gloves
- Sharps container

PROCEDURE

Caution: Do not administer TB skin test if the person has previously tested positive by skin test.

1. Wash hands. Refer to the Hand Washing procedure.
2. Prepare the syringe:
    a. Withdraw just over 0.1 ml into syringe.
    b. Hold syringe upright and tap lightly.
    c. Expel air and one drop of solution.
    d. Verify that 0.1 ml remains in the syringe.
3. Administer medication according to the Intradermal Injections procedure, steps 3 through 15.
4. Read results in 48 to 72 hours. A TB skin test shall be considered significant for results of:
    a. A tuberculin reaction of 5 mm or more in the following groups:
        - Persons who have had close recent contact with an individual with infectious TB.
        - Persons, who have chest radiographs with fibrotic lesions likely to represent old, healed TB.

- Persons with known or suspected HIV infection.
- Persons with organ transplants.
- Persons who are immunosuppressed.

b. A tuberculin reaction of 10 mm or more in persons who do not meet the above criteria but who have other risk factors for TB. This would include:

- Recent immigrants (<5 years) from high prevalence countries (e.g., countries in Asia, Africa, and Latin America).
- Persons from medically underserved, low-income populations, including high-risk racial and ethnic minorities (e.g., those from Asia, Africa, and Latin America).
- Users of intravenous drugs.
- Residents and employees of high risk congregate settings.
- Children < 4 years of age.
- Infants, children, and adolescents exposed to adults in high risk categories.
- Other populations that have been identified locally as having an increased prevalence of TB.

c. A tuberculin reaction of 15 mm or more in all other persons.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication name, dose, route, lot number, and time administered.
- Injection site.
- Results positive/negative.
- Report adverse reactions to the physician.

Source: Centers for Disease Control and Prevention (last updated May 2016).

RELATED PROCEDURES

Intradermal Injections

TRANSDERMAL MEDICATIONS

Through an adhesive patch or a measured dose of ointment applied to the skin. Transdermal drugs deliver constant, controlled medication directly into the bloodstream for prolonged systemic effect. “Skin patch” drugs include pain relievers, nicotine, hormones, and drugs to treat angina and motion sickness. Advantages include being absorbed at a fairly steady rate, you can take them even if having nausea or stomach upset, and the person does not have to remember to take frequent doses.

PURPOSE

To apply medications absorbed through the skin.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable gloves (use sterile gloves for sterile procedure)
- Ordered medication (ointment, cream, patch, spray, powder)
- Basin of warm water
- Washcloth, towel, non-drying soap
- Cotton-tipped applicators or tongue blades, as applicable
- Tape, as applicable
- Gauze pads, as applicable

PROCEDURE

1. Verify client identity and physician order per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Cleanse affected area. Remove all previous medication and/or drainage. Apply topical agent according to the steps below:
5. Cream, ointment, oil-based lotion:
    a. Place prescribed dosage of medication in hand and rub between hands.
    b. Apply evenly over skin surface (follow direction of hair growth).
6. Anti-anginal ointment:

a. Apply prescribed number of inches of medication to paper using measuring guide.

b. Areas for application include: chest, back, upper arms, and thighs. Do not apply on hairy surfaces or over scars because they may impede absorption.

c. Hold sides of paper and place directly onto skin. Do not massage or rub into skin.

d. Date, time, and initial paper.

e. Secure in place with tape if needed.

f. Remove previous paper and clean old application area.

g. Rotate sites during each application.

7. Transdermal Patch: if ordered daily, should be applied at the same time every day to ensure continuous effect.

a. Assess for application site. Avoid areas that are hairy, oily, or irritated.

b. Remove patch from protective covering and hold patch by the edges. Do not touch adhesive edges.

c. Apply patch. Press firmly with palm of hand for 10 seconds.

d. Date, time, and initial patch.

e. Remove old patch. Fold in half and dispose of patch.

f. Rotate sites daily.

g. People who use the transdermal patches can suffer an overdose if the patch is broken or cut open. Wearing too many patches can also cause an overdose.

    i. Guidelines are from the National Poison Control.

8. Aerosol spray:

a. Shake container to mix all of the contents thoroughly.

b. Verify directions for use and recommended distance to hold container away from area.

c. Have the client turn face or cover face with a towel if the spray is to be applied to the neck or upper body. This prevents inhalation of medication.

d. Spray prescribed amount of medication evenly over the affected area.

9. Suspension-based lotion:

a. Shake container to mix all of the contents thoroughly.

b. Apply a small amount of lotion to the gauze pad.

c. Apply to the affected area by stroking evenly (follow direction of hair growth).

d. Inform the client that area will dry and feel cool.

10. Powders:

    a. Dry skin surface thoroughly.

    b. Separate any skin folds or creases. This applies to areas such as those between toes, on abdomen, or under axilla or breasts.

    c. Apply powder lightly in a dusting motion so that a fine layer of powder covers the site.

11. Apply dressings as ordered by the physician.

12. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.

13. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure performed with medication name, dose, route, and time of administration.
- Condition of site prior to topical application.
- Report of any changes in skin condition given to physician.
- Teaching provided and client/caregiver response.

RELATED PROCEDURES

None

AEROSOL NEBULIZERS/INHALER

Nebulization is a process of adding medications or moisture to inspired air by mixing particles of various sizes with air. Adding moisture to the respiratory system through nebulization may improve clearance of pulmonary secretions. Medication such as bronchodilators, mucolytics, and corticosteroids are administered by nebulization.

Clients who receive drugs by **inhalation** frequently suffer from chronic lung disease. Drugs are administered to control airway hyperactivity or constriction. Clients must learn how they work and how to administer them safely.

Advantages of nebulizers is that they work for clients who are either too young or too ill to use other modalities. They allow administration of large doses of medicine.

Disadvantages include decreased portability, longer setup and administration time, higher cost, and may need a source of compressed air or oxygen.

PURPOSE

- To administer medication and provide humidification to the tracheobronchial tree.
- To increase alveolar and total ventilation.
- To facilitate the ability to cough and remove secretions.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Oxygen source or compressed air
- Connective small bore tubing*
- Nebulizer cup*
- Aerosol medication
- Sterile normal saline
- Mouthpiece or adapter if client has a tracheostomy
- Disposable gloves, as needed

PROCEDURE

1. Verify client identity per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Take vital signs and assess breath sounds.

4. Prepare nebulizer. Fill it with prescribed amount of medication and sterile normal saline. Specific products will come with instructions. Follow manufacturer's guidelines.
5. Turn on oxygen/compressed air source and set flow meter at prescribed level. You should see a visible mist flowing out of the mouthpiece.
6. Place the client in a sitting or semi-Fowler's position, unless contraindicated.
7. Insert mouthpiece or attach adapter to begin medication administration. If the client is wearing a nasal cannula, leave it in place.
8. Instruct the client to inhale slowly and deeply. Slow, deep breathing helps to maximize medication administration through ventilation of the lungs.
9. Hold or instruct the client to hold the nebulizer in an upright position. If nebulizer is not held upright, the medication may spill out into the client's mouth.
10. Stay with the client and monitor pulse and respirations. Stop treatment if the client's pulse increases by more than 20 beats per minute.
11. Observe the client for any adverse reactions. If present, stop administration and notify the physician. Adverse reactions include: shortness of breath, wheezing, palpitations, tachycardia, light headedness, dizziness, agitation, tremors.
12. Encourage the client to cough up sputum. If he has a tracheostomy tube or is intubated, suction following the appropriate procedure.
13. When treatment is complete, i.e., when the nebulizer cup is empty, turn off the flow meter.
14. Reposition the client comfortably.
15. Clean equipment according to the Agency Waste Disposal Policy. Allow equipment to air dry on paper towel. When dry, store in sealed plastic bag.
16. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Vital signs before, during, and after treatment.
- Medication name, dose, and route.
- Length of treatment and time given.
- Adverse reactions to treatment.
- Characteristics of sputum or secretions.
- Training provided to client/caregiver and client/caregiver demonstration of skill.
- Report given to physician, if any.

RELATED PROCEDURES

Coughing and Deep Breathing Exercises, Suctioning Procedure, Medication Administration Procedures

HANDHELD INHALERS

Handheld inhalers include metered dose inhalers, turbo inhaler, and the nasal inhaler. These deliver topical medications to the respiratory tract providing local and systemic effects.

PURPOSE

- To improve airway patency.
- Facilitate mucous drainage.
- Decrease inflammation.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Metered dose inhaler, turbo inhaler, or nasal inhaler
- Prescribed medication
- Normal saline or other appropriate solution for gargling
- Basin

PROCEDURE

1. Verify client identity per agency policy.
2. Wash hands. Refer to the Hand Washing procedure.
3. Explain procedure to the client.
4. Metered Dose Inhaler:
    a. Shake the inhaler bottle to mix the medication and aerosol propellant.
    b. Remove the mouthpiece and cap. (Some metered dose inhalers have a spacer built into the inhaler. Pull the spacer away from the section holding up the medication canister until it clicks into place
    c. Insert the metal stem on the bottle into the small hole on the flattened portion of the mouthpiece, then turn the bottle upside down.
    d. Have the client exhale, then place the mouthpiece in his mouth and instruct to close lips around it.
    e. As you firmly push the bottle down against the mouthpiece, ask the client to inhale slowly and to continue inhaling until his lungs feel full. (This action draws the medication into the lungs.)

f. Compress the bottle against the mouthpiece only once.

g. Remove the mouthpiece from the client's mouth and tell him to hold his breath for several seconds to allow the medication to reach the alveoli. Then instruct client to exhale slowly through pursed lips to keep the distal bronchioles open, allowing increased absorption.

h. Have the client gargle with normal saline solution, if desired.

i. Rinse the mouthpiece thoroughly with warm water to prevent accumulation of residue in the piece.

5. Turbo Inhaler:

a. Hold the mouthpiece in one hand, and with the other hand, slide the sleeve away from the mouthpiece as far as possible.

b. Unscrew the tip of the mouthpiece by turning it counterclockwise.

c. Press the colored portion of the medication capsule into the propeller stem of the mouthpiece.

d. Screw the inhaler together securely.

e. Holding the inhaler with the mouthpiece at the bottom, slide the sleeve all the way down, then up again to puncture the capsule and release the medication. Do this only once.

f. Have the client exhale and tilt his/her head back. Tell client to place mouthpiece in his/her mouth, close lips around it, and inhale once quickly and deeply through the mouthpiece.

g. Remove the inhaler from the client's mouth and tell him/her to exhale as much air as possible.

h. Repeat the procedure until all the medication in the device is inhaled.

i. Have the client gargle with normal saline if they desire. This removes medication from the mouth and back of throat.

j. Discard the empty mediation capsule, put the inhaler in its can, and secure the lid.

k. Rinse the inhaler with warm water at least once a week.

6. Nasal Inhaler:

a. Have the client blow his nose to clear his nares.

b. Shake the medication cartridge, then insert it in the adapter. (Before inserting a refill cartridge, remove the protective cap from the stem.)

c. Remove the protective cap from the adapter tip.

d. Hold the inhaler with your index finger on top of the cartridge and your thumb under the nasal adapter. The adapter tip should be pointing toward the client.

e. Tilt the client's head back and tell him/her to place the adapter tip in one nostril and occlude the other nostril with his finger.

f. Instruct the client to inhale gently as he/she presses the adapter and the cartridge together firmly to release a measured dose of medication. Be sure to follow manufacturer's instructions. With some medications, inhaling is not desirable.

g. Have client remove inhaler from nostril and hold breath for a few seconds, then exhale through the mouth.

h. Shake the inhaler and have the client repeat the procedure in the other nostril.

i. Have client gargle with normal saline, if desired.

j. Remove the medication cartridge from the nasal inhaler and wash the nasal adapter in lukewarm water. Let dry completely before reinserting the cartridge.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The type of inhalant administered and the device used.
- Dose and time of medication.
- Any significant changes in client's heart rate.
- Client's participation in procedure and ability to administer.

RELATED PROCEDURES

None

HOME HEALTH AIDE MEDICATION ADMINISTRATION

Medication administration or assistance provided by home health aides is a delegated nursing task. Home health aides may assist/administer medications only if the task is delegated by a registered nurse and the aide has been trained and deemed competent to perform the task. State nurse practice laws and home care licensure laws must be reviewed in making the decision to delegate these tasks.

PURPOSE

To assure that Home Health Aides are trained and deemed competent to assist in safe, accurate administration of regularly scheduled medications

Home Health Aides may administer medications only if the task has been delegated to them by a registered nurse and they have been deemed competent to do the procedure. The direction must be given in writing with clear parameters for reporting to the nurse. Each nurse must be knowledgeable about what the Nurse Practice Act in his or her state allows. The following instructions are intended to provide guidelines that nurses may use to direct home health aides under his or her direction. Instruction and delegation are nursing practices and must be individualized to the client as well as the caregiver.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Care plan with written instructions, including medications to be administered and specific procedure for the administration
- Equipment for hand washing
- Glass of water or other cool liquid
- Tissues or cotton balls, if needed
- Disposable gloves, if needed
- Teaspoon or tablespoon, if needed
- Client medication
- Water-soluble lubricant, if necessary
- Bulb syringe, if indicated

PROCEDURE

1. Review care plan and instructions for administration.
2. Wash hands. Refer to Hand Washing procedure.
3. Explain to the client what you are going to do.

4. Assemble medications and necessary supplies along with written instructions outlined by the Registered Nurse.
5. Check the five rights for safely giving medication.
    a. Right client.
    b. Right medication.
    c. Right time.
    d. Right route.
    e. Right dose.
6. If administering oral medications:
    a. Position the client for comfort in a sitting position.
    b. Assist the client in washing his/her hands.
    c. Pour medication into a spoon, cup, or the client's hand or mouth.
    d. Give the client water or other cool liquid to assist with swallowing of medication.
    e. Make certain the client swallows the medication.
7. If administering eye medications:
    a. Position the client so that his/her head is tilted back.
    b. Using forefinger, gently pull down the lower lid and ask the client to look up at the ceiling.
    c. Drop the prescribed number of drops into the middle of the client's lower lid. Do not touch the eye with the dropper. Steady your hand by resting it lightly on the client's forehead.
    d. Instruct the client to close his/her eyes.
    e. Wipe off excess medication with tissue.
8. If administering ear drops:
    a. Assist the client to sitting or supine position with head turned with appropriate ear held upward.
    b. If the client is an adult, hold the outer ear upward and backward. If the client is an infant, pull the outer ear down and back.
    c. Instill prescribed medication and instruct the client to remain in that position approximately ten to fifteen minutes.
9. If administering rectal suppositories:
    a. Position the client in left lateral position.
    b. Drape the client for privacy.

c. Put on disposable gloves.

d. Lubricate suppository.

e. Separate buttocks.

f. Insert suppository with the index finger until it is beyond internal sphincter.

g. Gently squeeze the client's buttocks together until urge to expel suppository subsides.

10. If administering vaginal suppositories:

a. Position the client in supine position with knees flexed and legs separated.

b. Drape the client for privacy.

c. Put on disposable gloves.

d. Gently separate the client's labia and insert suppository as far into the vagina as it can be inserted.

11. If administering topical medications:

a. Remove dressing, if applicable.

b. Wash area as instructed by your supervisor.

c. Apply ointment/lotion as outlined by supervising nurse.

d. Reapply dressing, if indicated.

12. If administering medications via gastrostomy tube:

a. Position the client to expose gastrostomy tube.

b. Crush medication into fine powder and mix with 5cc of water if not in elixir form.

c. Put on disposable gloves.

d. Remove clamp or feeding port caps.

e. Administer medication with a syringe.

f. Flush medication with 50cc of water.

g. Close feeding port cap or reclamp.

h. Do not administer gastrostomy medication if the tube has become dislodged, if the client is complaining of nausea and vomiting, or if you meet resistance when instilling medication. Notify the RN supervisor if any of these conditions exist. Multiple medications should be given one at a time.

13. Return all medications to their proper place.

14. Remove and discard wrapping and used disposable equipment.

15. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The medication taken, time, and the route of administration.
- Any difficulties the client had in taking the medication.
- Any observed side effects or client complaints.
- A Home Health Aide MAY NOT administer or inject medications into veins, muscle, or skin unless this has been specifically delegated and employee is competent.

Registered Nurse must document specific instructions provided to home health aide verbally and written in care plan. Documentation must include procedure taught, return demonstration, and competency evaluation, reporting parameters and instructions provided.

RELATED PROCEDURES

None

ADVERSE DRUG REACTION PROCEDURE

PURPOSE

To identify and respond to signs and symptoms of adverse drug reaction.

APPLIES TO

- Registered Nurses
- Licensed Practical/ Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Anaphylaxis kit that includes:

- 250cc bag .9 sodium chloride
- Alcohol swab
- IV start kit
- Benadryl 50 mg/cc vial.
- 1cc Heparin (100u/cc).
- Betadine swab
- IV solution set
- Oral Tylenol tablets
- 30cc vial bacteriostatic saline
- 1 Inch tape
- 18g butterfly infusion set
- 20g needles
- Solu-cortef 100 mg syringe
- Airway & mask
- Sterile gloves
- Syringes
- Epinephrine.5 mg syringes
- Thermometer
- Must have physician orders for the drugs to use and the protocol to follow. These orders must be client specific.

DEFINITION

Adverse Drug Reaction: Signs and symptoms are not directly associated with the medication but occur after administration of a medication. Reactions may be mild to severe (life threatening).

Prior to Drug Administration:

- Be aware of all drugs client is currently taking and of potential side effects.
- Review allergy history.
- Obtain anaphylaxis protocol orders and parameters for responding to adverse reactions from the physician.
- Obtain baseline vital signs and record mental status.

PROCEDURE

Note: It is important to follow physician parameters and orders when responding to a suspected adverse drug reaction.

1. Observe for signs and symptoms of adverse reaction:
    a. **Central Nervous System:** headache, tremors, dizziness, muscle spasms, confusion.
    b. **Gastrointestinal:** nausea, vomiting, diarrhea, cramps, abdominal pain.
    c. **Skin:** rash, flushing, swelling of eyelids and lips, erythema, urticaria.
    d. **Cardiovascular:** dizziness, hypotension, arrhythmia, tachycardia, bradycardia.
    e. **Respiratory:** shortness of breath, wheezing, stridor, dyspnea on exertion, respiratory depression.
2. Report signs and symptoms to physician.
3. Discontinue drug administration.
4. Institute treatment/emergency measures as directed by physician or per protocol.
5. Maintain airway, support breathing, and circulation.
6. Activate emergency medical system as needed.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date, time, and nature of onset of symptoms.
- Time of onset in relation to medication administration.
- Emergency actions taken and the client's response.
- To whom and under what conditions responsibility for the client was transferred to others (i.e. rescue squad/hospital staff).
- Allergy/adverse reaction.
- Complete adverse drug reaction/incident report form.
- Notify pharmacy within 24 hours of reaction.
- Inform client of reaction/suspected allergy and instruct on avoidance of specific medication.
- Note allergy on medication profile - flag clinical chart.

RELATED PROCEDURES

None

HEPATITIS B VACCINE INJECTIONS

Hepatitis B is a serious disease that affects the liver. It is caused by the Hepatitis B virus.

Hepatitis B can cause mild illness lasting a few weeks, or it can lead to a serious lifelong illness.

Hepatitis B vaccine can prevent Hepatitis B and its consequences, including liver cancer and cirrhosis.

PURPOSE

To administer medication for immunization against infection from all known subtypes of Hepatitis B.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 2-3ml syringe
- Written order for vaccine with AGENCY'S direction

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don clean gloves.
3. Select the appropriate injection site - deltoid muscle in either arm.
4. Prepare medication according to the physician's order. Thoroughly agitate vial just before administration. To restore suspension, refrigerate both open and unopened vials. Do not freeze.
5. Engerix-B (supplied in single dose vial or syringe):
    a. Initially, give 20 meg (1ml adult formulation) IM in deltoid muscle.
    b. Give second dose of 20 meg IM in deltoid muscle 30 days later.
    c. Give third dose of 20 meg IM in deltoid muscle six (6) months after initial dose.
6. Recombivax HB (supplied in single dose vial or syringe):
    a. Initially, give 10 meg (1ml adult formulation) IM in deltoid muscle.
    b. Give second dose of 10 meg IM in deltoid muscle 30 days later.

c. Give third dose of 10 meg IM in deltoid muscle six (6) months after initial dose.

7. Assist the staff member into a comfortable position. Relocate site.
8. Cleanse the injection site with alcohol prep pad. Start at center and rotate outward in circles, approximately two inches.
9. Remove needle protector, pulling it straight.
10. Position syringe with needle at 90-degree angle.
11. Inject needle with the thumb and index finger of non-dominant hand, spreading the skin of the injection site taut and injecting the needle into the muscle quickly at a 90-degree angle.
12. Secure syringe with non-dominant hand. Using dominant hand, slowly pull back on the plunger to aspirate. Avoid moving the syringe. If blood appears in the syringe, the needle is in a vein. Withdraw the needle, discard, and begin procedure again.
13. Slowly inject medication.
14. Withdraw needle and cover site with alcohol prep pad.
15. Massage site gently.
16. Remove alcohol prep pad and assess injection site.
17. Dispose of needle and syringe in sharps container. Do not recap needles.
18. Remove gloves and dispose of supplies according to the Agency Waste Disposal Policy.
19. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

- Document on Employee Hepatitis B Vaccination form.
- Document number in the series needed.

RELATED PROCEDURES

Preparing Intramuscular Injections from Ampules and Vials

CALCULATING MEDICATION DOSAGES/CONVERTING DOSAGE SYSTEMS

To convert dosages from metric to apothecaries or household systems, it is necessary to memorize or refer to equivalency tables on the following pages.

To convert milligrams to grains, use this formula:

$$\frac{\text{1 grain}}{\text{Milligrams per grain}} = \frac{\text{dose desired}}{\text{dose on hand}}$$

1 grain is to 60 milligrams as X grains is to 180 milligrams

60X = 180 or X = 3

EQUIPMENT/SUPPLIES

- Orders for dosage of medication needed.
- Dosage of medication on hand.

CALCULATE

- **ORAL DOSAGES**

  $$\frac{D}{H} = X \text{ (dose to be administered)}$$

  Dose desired

  Dose on hand

- **WHEN IN LIQUID FORM**

  $$\frac{D}{H} \times Q = X$$

  Dose desired

  Dose on hand by quantity

  = X (dose to be administered)

- **PARENTERAL DOSAGES**

  $$\frac{D}{H} \times Q = X$$

  Dose desired

  Dose on hand by quantity

  = X (dose to be administered)

METRIC	Apothecary	Household
.06 ML	1 minim	1 drop
5(4) ML	1 fluid dram	1 teaspoon
15 ML	4 fluid drams	1 tablespoon
30 ML	1 fluid ounce	2 tablespoons
180 ML	6 fluid ounces	1 teacup
240 ML	8 fluid ounces	1 glass

APOTHECARY EQUIVALENTS (volume)

METRIC	APOTHECARY
1 ml	15 minims
1 cc	15 minims
.06 ml	1 minim
4 ml	1 dram
30 ml	1 ounce
500 ml	1 pint
1000 ml	1 quart

APOTHECARY EQUIVALENTS (weight)

METRIC	APOTHECARY
1.0 Gram or 1000 mg	gr. 15
0.6 Gram or 600 mg	gr. 10
0.5 Gram or 500 mg	gr. 7.5
0.3 Gram or 300 mg	gr. 5
0.2 Gram or 200 mg	gr. 3

APOTHECARY EQUIVALENTS (weight), continued

METRIC	APOTHECARY
0.1 Gram or 100 mg	gr. 1.5
0.06 Gram or 60 mg	gr. 1
0.05 Gram or 50 mg	gr. 3/4
0.03 Gram or 30 mg	gr. 1/2

0.015 Gram or 15 mg	gr. 1/4
0.010 Gram or 10 mg	gr. 1/6
0.008 Gram or 8 mg	gr. 1/8
4 Gram	1 dram
30 Gram	1 ounce
1kg	2.2 pounds

RELATED PROCEDURES

None

INSULIN ADMINISTRATION

PURPOSE

- To administer medication safely and accurately
- To prevent complications from insulin administration
- To maintain blood glucose levels in a normal range

Insulin Considerations:

- Standard insulin contains 100 units in 1 ml. This is called U-100 insulin. Most syringes are marked for giving U-100 insulin and every notch on a standard 1 ml syringe is 1 unit of insulin.
- More concentrated insulins are now available. These include U-500 and U-300.
- Some types of insulin can be mixed with another in one syringe, but many cannot. Check with provider or pharmacist about this.
- Rotating injection from one body area to another is not recommended due to variation in insulin absorption and action.
- A body area should be used consistently with rotation within that area.
- The injection should be 1 inch from the previous injection site.
- Absorption is most predictable in the abdomen.
- Wait 30 seconds after slowly injecting insulin before withdrawing needle to prevent leakage.
- Aspiration before injecting insulin is not necessary.
- Massaging after injection may cause erratic absorption.
- Unopened bottles of insulin can be stored in the refrigerator.
- Opened bottles of insulin should be stored at room temperature.
- Opened non-refrigerated insulin will maintain potency for one month.
- Temperature extremes can cause deterioration of the insulin.

Note: In the home setting, clients may choose to reuse their needles until they become dull. If this is done, needles should be recapped after use. Clients should consult with physician before initiating this practice.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Insulin prescribed insulin syringes (30. 50. or 100 unit/cc).
- 27- to 31-gauge needles.
- Alcohol wipes.

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Rotate intermediate or long-acting (cloudy) insulin between hands. Do not shake the bottle; this could make the insulin clump.
4. Regular insulin is clear and requires no rotation.
5. Wipe top of insulin bottle.
6. Remove needle guard pull plunger of syringe down to desired amount of medication.
7. Inject amount of air into air space and not solution to avoid bubbles in solution.
8. Withdraw amount of insulin prescribed into syringe.
9. Administer as any sub q medication.

Administering Two Insulins: Never mix two types of insulin in one syringe unless ordered this way.

1. Check orders.
2. Gather equipment.
3. Wash hands. Refer to the Hand Washing procedure.
4. Wipe top of insulin bottles.
5. Insert needle into Bottle A - inject prescribe amount of air into intermediate acting bottle.
6. Withdraw dosage into syringe.
7. Insert needle into Bottle B - inject prescribed amount of air into regular insulin and withdraw dosage into syringe.
8. Administer two injections.
9. Mixing insulin dosages:
    a. Draw up regular insulin first and then draw up long acting insulin *(*this prevents contamination of regular insulin*).*
    b. Be careful to not inject regular insulin into second bottle.
    c. Administer per SubQ injection protocol.

DOCUMENTATION GUIDELINES

- Type and amount of insulin administered
- Site of administration
- Blood glucose levels
- Teaching completed for client/caregiver.

RELATED PROCEDURES

None

ADMINISTERING SUBQ HEPARIN/LOVENOX

PURPOSE

Heparin Administration Guidelines:

- Heparin injection is an anticoagulant. It is used to decrease the clotting ability of the blood and prevent clots from forming in blood vessels.
- Heparin is used to prevent or treat certain blood vessel, heart, and lung conditions.
- SubQ Heparin doses are low and prevent clot formation but do not alter blood coagulation studies.
- Heparin administration sites should not be massaged as this could cause tissue damage and bruising.
- Give injections into the sides of the abdomen or stomach and around the waist towards the back. If you are not able to use those sites, use the front and side of upper legs.
- Use different site for each injection and avoid bruised areas, scars or lesions.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Heparin/Lovenox dose per orders
- 1 ml tuberculin syringe 2 needles 25 gauge, 5/8 inch (medications are usually provided in a prefilled syringe)
- Alcohol wipes
- Clean gloves

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Cleanse top of bottle.
4. Draw up prescribed dose.
5. Change needles before administering dose *(*This prevents tracking of heparin and bruising tissue*).*
6. Select site on sides of abdomen or lower abdomen - at least two fingerbreadths from umbilicus and above the iliac crest (this location avoids umbilical veins). May also use tops and sides of upper legs, if needed.

7. Cleanse site with alcohol and allow drying before injecting (if skin is wet, it may inject antiseptic under the skin.
8. Gently pinch an inch of subcutaneous tissue between thumb and forefinger of one hand.
9. Hold syringe with other hand and insert needle into skin fold at a 90-degree angle.
10. Inject slowly. Do not aspirate - this can cause rupture of small vessels and increase bleeding into tissue.
11. Wait 10 seconds before withdrawing needle.
12. Press and hold alcohol wipe over injection site.
13. Discard syringe and needle into sharps container.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Medication dosage, time of administration, skin condition.
- Laboratory values as appropriate.
- Site of injection.
- Patient tolerance of procedure.
- Any teaching completed.

RELATED PROCEDURES

None

SUPPOSITORY (RECTAL AND VAGINAL)

PURPOSE

- To administer medications into the rectum.
- To administer medication into the vagina.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Medication suppository (rectal or vaginal) dosage as ordered by physician.
- Disposable gloves.
- Water soluble lubricant.
- Plastic trash bag.

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Gather equipment and explain the procedure to the client.
3. Rectal Suppository:
    a. Place client on left side and drape for privacy.
    b. Remove wrapper from medication.
    c. Separate the buttocks and Insert the suppository with Index finger of gloved hand until It Is beyond the Internal sphincter.
    d. Instruct client to take deep breaths through the mouth during procedure.
    e. Cleanse area as needed.
    f. Discard disposable items and wash hands.
    g. Instruct client to lie quietly for 10-15 minutes.
4. Vaginal Suppository:
    a. Position client in supine position with knees flexed and legs apart.
    b. Cleanse perineal area as needed.
    c. Separate labia and insert the suppository as far into vagina as possible using applicator as indicated.
    d. Discard disposable items.

DOCUMENTATION GUIDELINES

Document in the client's record:

- Procedure performed.
- Client tolerance of procedure.
- Observations of site and any drainage.
- Teaching completed and client response to teaching.
- If self administration taught, document client ability and need for further Instruction.
- Any other pertinent observations or changes in plan.

RELATED PROCEDURES

Medication Administration, Enemas, Rectal Tube

TYPES OF WOUND DRESSINGS

Gauze Dressings: Gauze dressings include a variety of products, including impregnated, non-impregnated, woven and non-woven. It comes in a variety of forms, ranging from sponges, pads, ribbons, and strips to rolls.

For gauze dressings that contact the wound bed, nonwoven gauze is best because it is tightly knitted together and will not leave fibers in the wound as woven products can. Gauze is used for cleaning wounds. It can be impregnated with antiseptic solutions for use in necrotic wounds or those with increased bioburden. When uncertain about what to use, use gauze sponges moistened with saline until a protocol is recommended by wound care specialist/physician.

Hydrocolloid Dressings: Hydrocolloids are composed of polysaccharides, gelatin or pectin, polyisobutylene, and carboxymethylcellulose. They assist with wound fluid absorption; gelatin or pectin help to hold the dressing in a solid form. Polyisobutylene is a copolymer that is used to increase the ability of the product to stick to skin. They are used in many other products, including ostomy skin barriers.

Hydrocolloid dressings are occlusive and semi occlusive. This property helps the dressing trap moisture at the dressing-wound interface, making them impermeable to external bacteria and fluids. This moisture causes dead cells to swell and break open, which releases chemicals that assist in degrading of necrotic tissue. When the necrotic tissue in the wound bed is removed, it leaves a red granulation wound base. At least one inch of intact skin surrounding the dressing is required to allow the best adhesion. They can be left in place for 3 to 7 days. These dressings encourage both granulation tissue formation and epithelialization. Because they are occlusive, care must be taken when using with immunocompromised client or in someone with an inadequate blood supply to the area.

Hydrogels: These water or glycerin-based hydrophilic “water lover” polymers are designed to donate moisture to the wound. This facilitates maintenance of a moist wound environment for granulating wounds, and gives moisture to necrotic wounds to assist with debridements. The product comes in two formulations: an amorphous gel which can be used to coat a wound bed or impregnate gauze or a sheet form to use with shallow wounds. Many hydrogel formulations require a secondary dressing. There may be the potential for periwound maceration; they would not be used with wounds that are heavily draining.

Recommended for leg ulcers and pressure ulcers. *Cover with secondary dressing and change daily or as needed to keep the wound moist*. Gauze can be used to fill space in large wounds. When using the sheets, cut to fit the wound as it can be irritating to surrounding skin.

Alginate Dressings: This dressing is made of seaweed and is absorptive. It is available as soft pads or ropes that will absorb drainage and can be used on infected wounds. When used with exudative wounds, the calcium in the alginates is exchanged for sodium ions in the wound drainage, creating a gel. The gel maintains a moist wound environment. These dressings can absorb up to 20 times their weight The gel can take on a green-gray color; it needs to be removed and the wound cleansed before assessment for signs and symptoms of infection.

Alginates are used for wounds with drainage and can be used in deep wounds with undermining. The rope form is useful for packing wider tunnels. In deeper wounds, the caregiver can line the

wound with alginate, then use fluffed gauze as filler for increased absorptions. They are easy to use, absorptive, and fit many wound shapes and sizes. They do require a secondary dressing. Choices for secondary dressing include foam, gauze, hydrocolloid, and transparent film. This product is contraindicated for use with wounds with no exudates or dry eschar and full thickness burns. Any secondary dressing should be non-occlusive as oxygen interacts with alginate for healing. *This is appropriate to use as long as the wound is draining.* The *frequency of dressing change depends on the drainage 1-2 times per day at first and then decrease to every 2-4 days.*

Transparent Dressings: This type of dressing protects against friction and is clear, adherent, and non-absorbent. It is permeable to oxygen and air but not to water. It allows for visual inspection of the wound and *can be changed every 3-7 days if intact*. Change if loose, or wet. It will not absorb drainage so if fluid accumulates under dressing, the clinician can aspirate with a 26-gauge needle and then cover the puncture site. **These dressings should not be used on infected areas.**

Foam Dressings: These products are usually composed of polyurethanes that have small, differently-sized open cells capable of holding exudates away from the wound. These dressings aid autolytic debridement when in the presence of moisture. Foam dressings can be used to absorb small to large amounts of fluid, depending on the thickness. The dressing should extend at least one inch onto intact skin.

Thin foam dressings work well with skin tears because they allow for easy and gentle removal. Foams are comfortable, easy to apply and remove, and many can be used with infected wounds. Foams can be combined with hydrogels and other solutions for use on wounds to assist with autolytic debridement. They should not be used on dry wounds or full thickness burns.

Honey (Medicinal): This is a specific type of honey only produced in a particular area of New Zealand. It is composed of sucrose, glucose, and fructose with enzymes such as invertase and glucose oxidase added by the bees. Unlike culinary honey, which is sterilized with heat, medicinal honey is sterilized with y-radiation, which allows the honey to keep its biological activity.

The osmotic effect of the supersaturation of honey with sugars pulls lymph fluid from surrounding tissues, helping to decrease edema and providing a moist wound environment. Fluid in the wound bed leads to reduced pain with dressing removal and loosens slough, helping promote debridement in the wound bed. Additionally, the osmotic effect of medicinal honey tends to dehydrate bacteria present in the wound. Medicinal honey has a pH range from 3.2 to 4.5. Alkaline wounds have increased necrotic tissue, so the acidic pH of medicinal honey products helps optimize the wound-healing environment by increasing oxygen release, decreasing protease activity and promoting angiogenesis, macrophage, and fibroblast activity.

Medicinal honey comes in an alginate form, hydrocolloid, impregnated gauze, gel, and paste. It can cause stinging or burning pain with initial application. It is contraindicated for use in those with allergies to honey and bee venom.

Antimicrobials: These products are chosen for wounds that demonstrate evidence of critical colonization or are at risk of infection. These agents are used to help decrease bacterial load and preventing replication and potential invasion into deeper tissue.

Silver: These products work by donating silver to the wound bed, killing bacteria at the wound surface or destroying the bacteria that are absorbed into the dressing with exudates. The antimicrobial properties of silver are available only with it in a soluble form, either as the silver action Ag+ or as clusters of the uncharged forms Ag°, which is present in nanocrystalline silver products.

Methylene blue and gentian violet have been used for a long time. They are recently more popular in formulations that bind methylene blue and gentian violet in a polyvinyl alcohol (PVA) foam or a polyurethane foam. These products are bacteriocidal. The foam has been helpful in treating hypergranulation tissue, as well as flattening slightly rolled edges, assisting with reepithelialization.

The antimicrobial properties of these dressings address a range of pathogenic organisms within a wound, including fungi, protozoa, and a variety of bacteria such as MRSA and Vancomycin-resistant enterococci.

Antifungal Agents: These agents treat topical fungal infections, including candidiasis. Topical antifungal powders are used with less serious cases, whereas antifungal creams can be applied twice a day for more extensive skin involvement. Severe or recalcitrant fungal rashes may require oral antifungal agents.

References: Jaszarowski, K., & Murphree, R. (2016) Wound cleansing and dressing selections. In D. Doughty & L. McNichol (Eds.), *Wound, Ostomy and Continence Nurses Society® Core Curriculum: Wound Management (pp. 131-144) Philadelphia, PA: Wolters Kluwer.*

APPLICATION OF DRY DRESSING

PURPOSE

- To aid in the management of a wound with minimal drainage.
- To protect the wound from injury, prevent introduction of bacteria, reduce discomfort, and assist with healing.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair of disposable gloves and one pair of sterile gloves or two pair of disposable gloves*
- Dressing set including scissors and forceps*
- Sterile gauze dressings
- Prescribed solution - sterile normal saline or sterile water per physician's orders
- Tape, ties, or bandage
- Waterproof bag
- Measurement device
- Sterile drape (optional with sterile dressing change)
- Antiseptic ointment (if ordered)
- ABD pads (if ordered) *
- Waste disposal supplies

***Note:** Supplies are to be sterile if procedure is ordered to be performed using aseptic technique.

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Position the client to provide access to the wound.
3. Place waterproof bag next to work area and within reach.
4. Don clean gloves.
5. Remove old dressing. Pull tape toward the dressing.
6. Observe appearance and amount of drainage.
7. Hold soiled dressing in hand and remove glove to wrap inside out around dressing. Repeat with second glove and discard in disposable bag. If amount of

dressing is too great, place dressing directly into waterproof bag, remove gloves, and dispose of in bag.

8. For sterile procedure, open sterile dressing set.
9. Open supplies.
10. Don second pair of gloves.
11. Assess wound size, characteristics, and drainage. Use same measurement method throughout service, i.e., inches or centimeters.
12. Clean the wound with prescribed solution and gauze pad. Clean from least-contaminated to most-contaminated areas. Use new pad for each stroke.
13. Apply ointment as ordered.
14. Apply dry sterile dressings:
    a. Fluff the bottom gauze pad. This promotes proper absorption of drainage.
    b. Apply top gauze pad.
    c. If wound has a drain, use a precut gauze pad to fit around drain.
    d. If needed, apply ABD pad to top of dressing.
15. Secure dressing with tape, ties, or binder.
16. Remove gloves and dispose of waste according to the Agency Waste Disposal Policy.
17. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance, odor, and size of wound.
- Amount and characteristics of drainage.
- The client's tolerance of the procedure.
- Dressing procedure and time of dressing change.

RELATED PROCEDURES

None

APPLICATION OF WET-TO-DRY DRESSING

PURPOSE

- To mechanically debride a wound.
- Should be limited to wounds with greater than 50% necrotic tissue in the wound and no visible granulation tissue. This technique can damage newly formed granulation tissue.

APPLIES TO

- Registered nurses
- Licensed practical/vocational nurses
- Therapists
- Other (identify): _____

EQUIPMENT/SUPPLIES

- Disposable gloves and sterile gloves*
- Dressing set including scissors and forceps*
- Sterile gauze pads
- ABD pads, if ordered*
- Prescribed solution - sterile normal saline or sterile water
- Waterproof pad
- Waterproof bag
- Tape, ties, or bandage
- Sterile drape (optional)

***Note:** Supplies are to be sterile if procedure is ordered to be performed using aseptic technique.

PROCEDURE

These dressings are changed every 4 to 6 hours. They do not provide a bacterial barrier, nor are they as effective as other debridement methods (WOCN, 2015).

1. Wash hands. Refer to Hand Washing procedure.
2. Position the client to provide access to the wound.
3. Place waterproof bag next to work area and within reach.
4. Don clean gloves.
5. Remove old dressing. Pull tape toward the dressing. Gently free dressing. May use small amount of sterile normal saline or sterile water to assist in loosening dressing.
6. Observe appearance and amount of drainage.

7. Hold soiled dressing in hand and remove glove to wrap inside out around dressing. Repeat with second glove. If amount of dressing is too great, place dressing directly into waterproof bag, then remove gloves and dispose of in bag.
8. Prepare sterile dressings. Pour prescribed solution over one to two gauze pads to moisten.
9. Don clean gloves (sterile gloves if procedure is ordered to be aseptic).
10. Assess wound size, characteristics, and drainage. Assess drains if any present. Use same measurement method throughout service, i.e., inches or centimeters.
11. Cleanse wound with prescribed solution and gauze pad. Clean from least-contaminated to-most contaminated areas. Use new pad for each stroke.
12. Fluff moistened gauze pad(s) and apply over top of wound. For deep wounds, use forceps to ensure all surfaces are in contact with moistened gauze.
13. Apply sterile gauze pads over wet gauze. Can fluff to ensure wound is loosely packed.
14. Cover with ABD pad(s).
15. Secure dressing with tape, ties, or binder.
16. Remove gloves and dispose of waste per Agency Waste Disposal Policy.
17. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance, odor, and size of wound.
- Amount and characteristics of drainage.
- The client's tolerance of the procedure.
- Dressing procedure and time of dressing change.

RELATED PROCEDURES

None

APPLICATION OF TRANSPARENT DRESSING

PURPOSE

To manage superficial wounds.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair of disposable gloves and one pair of sterile gloves or two pair of disposable gloves*
- Sterile normal saline or prescribed wound cleanser
- Sterile gauze pads
- Proper size transparent dressing
- Waterproof bag
- Dressing set (optional)*
- Skin preparation materials (optional)

***Note:** Supplies are to be sterile if procedure is ordered to be performed using aseptic technique.

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Position the client to provide access to the wound.
3. Place waterproof bag next to work area and within reach.
4. Don clean gloves.
5. Remove old dressing. Gently free dressing and pull back slowly across dressing in the direction of hair growth.
6. Observe appearance of wound and any drainage.
7. Hold soiled dressing in hand and remove glove to wrap inside out around dressing.
8. Don clean gloves (sterile gloves if procedure is ordered to be aseptic).
9. Gently cleanse area with gauze pads or spray with cleanser. Swab exudate away from wound.
10. Thoroughly dry skin around wound with gauze pads.

11. If the client perspires a great deal or the dressings tend to come off, use skin preparation materials around periphery of wound and allow drying thoroughly.
12. Apply transparent dressing. Do not stretch or wrinkle dressing.
13. Remove gloves and dispose of waste according to the Agency Waste Disposal Policy.
14. Wash hands. Refer to Hand Washing procedure.
15. Change dressing every seven days or as needed.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance, odor, and size of wound.
- Amount and characteristics of drainage.
- The client's tolerance of the procedure.
- Dressing procedure and time of dressing change.

RELATED PROCEDURES

None

APPLICATION OF HYDROCOLLOID DRESSING

Hydrocolloids are occlusive – semi-occlusive dressings composed of such materials as gelatin, pectin, and carboxmethylcellulose. The composition of the wound contact layer may differ among dressings. These dressings provide a moist healing environment that allows clean wounds to granulate and necrotic wounds to debride autolytically. Hydrocolloids are manufactured in various shapes, sizes, adhesive properties, and forms including wafers, pastes, and powders.

Indicated for primary or secondary dressing to manage select pressure ulcers, partial and full thickness wounds, wounds with necrosis or slough, and wounds with light to moderate drainage.

PURPOSE

To provide a moist healing environment for clean wounds and debride necrotic wounds.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair of disposable gloves and one pair of sterile gloves or two pair of disposable gloves*
- Sterile normal saline or prescribed wound cleanser
- Sterile gauze pads
- Proper size hydrocolloid dressing
- Waterproof bag
- Dressing set (optional)*
- Water-soluble lubricant (optional)

***Note:** Supplies are to be sterile if procedure is ordered to be performed using aseptic technique.

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Position the client to provide access to wound.
3. Place waterproof bag next to work area and within reach.
4. Don clean gloves.
5. Remove old dressing. Gently free dressing and pull back slowly across dressing in the direction of hair growth. May use water-soluble lubricant for easier removal.

6. Observe appearance of wound and any drainage.
7. Hold soiled dressing in hand and remove glove to wrap inside out around dressing. Repeat with second glove. If amount of dressing is too great, place dressing directly into waterproof bag, then remove gloves and dispose of in bag.
8. Prepare sterile dressings. Pour sterile normal saline or prescribed solution over one to two gauze pads.
9. Don clean gloves (sterile gloves if procedure is ordered to be aseptic).
10. Assess wound size, characteristics, and drainage. Use same measurement method throughout service, i.e., inches or centimeters.
11. Gently cleanse area with gauze pads or spray with cleanser. Swab exudate away from wound.
12. Thoroughly dry area around wound with gauze pads.
13. Apply hydrocolloid dressing. At least o1 inch of intact skin surrounding the dressing is required to obtain the best adhesion. Dressings are changed if wound drainage reaches 1 inch from the edge of the dressing or if drainage seeps under the dressing.
    a. Hold slight pressure with palm of hand covering dressing for one to two minutes to assist in adhering.
    b. Deeper wounds require filling the dead space with a filler product, rather than just laying a sheet of hydrocolloid over the top of the wound.
14. Remove gloves and dispose of waste according to the Agency Waste Disposal Policy.
15. Wash hands. Refer to Hand Washing procedure.
16. Change dressing minimally every seven days.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance, odor, and size of wound.
- Amount and characteristics of drainage.
- The client's tolerance of the procedure.
- Dressing procedure and time of dressing change.

RELATED PROCEDURES:

None

APPLICATION OF HYDROGEL DRESSING

Hydrogels are available in three forms—amorphous gels, sheet dressings and impregnated gauzes. Hydrogels are glycerin and water based products primarily meant for wound hydration. However, because their high water content, they cannot absorb large amounts of water. They provide a cooling action and may reduce pain. Not to be used for heavily draining wounds.

PURPOSE

- To facilitate wound hydration and facilitate healing.
- Aid in debridement of the wound.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair of disposable gloves and one pair of sterile gloves or two pair of disposable gloves*
- Sterile normal saline or prescribed wound cleanser
- Sterile gauze pads
- Hydrogel dressing
- Waterproof bag
- Dressing set (optional)*

***Note:** Supplies are to be sterile if procedure is ordered to be performed using aseptic technique.

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Position the client to provide access to wound.
3. Place waterproof bag next to work area and within reach.
4. Don clean gloves.
5. Remove old dressing. Lift hydrogel dressing off wound.
6. Dispose of soiled dressings in waterproof bag.
7. Remove soiled gloves by wrapping them inside out.
8. Prepare sterile dressings. Pour sterile normal saline or prescribed solution over one to two gauze pads.
9. Open new hydrogel dressing or hydrogel container.
10. Don clean gloves (sterile gloves if procedure is ordered to be aseptic).

11. Assess wound size, characteristics, and drainage. Use same measurement method throughout service, i.e., inches or centimeters.
12. Gently cleanse area with gauze pads or spray with cleanser. Swab exudate away from wound.
13. Apply new hydrogel dressing or hydrogel. The gel should be approximately 1/4 to 1/2-inch thick across the wound.
14. Cover with secondary dressing:
    a. Gauze.
    b. Hydrocolloid.

***Note**: Refer to Application of Wet-to-Dry Dressing or Application of Hydrocolloid dressing procedures.

15. Remove gloves and dispose of waste according to the Agency Waste Disposal Policy.
16. Wash hands. Refer to Hand Washing procedure.

PROCEDURE

Document in the clinical record:

- Appearance, odor, and size of wound.
- Amount and characteristics of drainage.
- The client's tolerance of the procedure.
- Dressing procedure and time of dressing change.

RELATED PROCEDURES

Application of Wet-to-Dry Dressing, Application of Hydrocolloid Dressing

ASSESSMENT/STAGING OF PRESSURE ULCERS

Pressure ulcers result from pressure applied with great force for short periods of time or less force over a longer period. Circulation is impaired depriving tissues of oxygen and other life sustaining nutrients. This process damages skin and underlying structures.

Pressure injuries are classified according to the extent of damage to the skin and tissue and can range from no visible loss of skin to partial thickness skin loss and full thickness tissue loss (NPUAP, 2016). The staging classifications only relate to pressure injuries and should not be used to describe other wound types.

Common sites for pressure ulcers are over bony prominences where friction and force combine to break down skin.

Home care should use a risk assessment tool to determine risk and plan accordingly.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

PRESSURE ULCER ASSESSMENT GUIDE

- In assessing the pressure ulcer, the following parameters should be addressed consistently.
- Site, Stage of ulcer, and size of ulcer (include length, width, and depth).
- Presence of tunneling or undermining.
- Presence of necrotic tissue (slough or eschar).
- Drainage amount, color, and odor.
- Granulation.
- Pain.
- Condition of surrounding tissue.

STAGING A PRESSURE ULCER

- **STAGE 1:** Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. These color changes do not include purple or maroon discolorations, which represent deep tissue injury.
- **STAGE 2:** Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed without slough. May also present as an intact or open/ruptured serum filled blister. Should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation. Granulation tissue is not present in this wound.

- **STAGE 3:** Full thickness skin loss. Adipose and granulation tissue is visible and rolled wound edges are often present. Subcutaneous fat may be visible but bone, tendon, or muscle is not exposed. Slough and/or eschar may be present, but does not obscure the depth of tissue loss. May include undermining and tunneling. Muscle, tendon, cartilage, and bone are not exposed. The depth of Stage three varies by location. Areas with significant adipose tissue can develop extremely deep stage 3 ulcers.
- **STAGE 4:** Full thickness skin loss – with exposed bone, tendon, or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining or tunneling. The measurable depth will vary by anatomical location.
- **UNSTAGEABLE:** Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and eschar (tan, brown, or black) in the wound bed. Once debrided, a stage 3 or stage 4 ulcer will be revealed. Stable, dry eschar on an ischemic limb or heel should not be removed.
- **Deep Tissue Pressure Injury:** Intact or nonintact skin with localized or persistent nonblanchable deep red, maroon, or purple discoloration, or epidermal separation with a blood-filled blister is considered a deep tissue injury. This type of injury results from intense or prolonged pressure and shear forces the bone to muscle interface. They either resolve without tissue loss or evolve to full thickness skin and tissue loss.

NOTE: Pressure ulcers heal to a progressively shallower depth; they do not replace lost muscle, subcutaneous fat or dermis before they epithelialize. Instead the ulcer is filled with granulation (scar) tissue composed primarily of endothelial cells, fibroblasts, collagen and extracellular matrix. Reverse staging does not accurately characterize what is physiologically occurring in the ulcer. NPUAP has developed and validated the pressure ulcer scale for healing (PUSH) tool. This tool documents pressure ulcer healing. The tool is being pilot tested for adoption by the U.S. Health Care Financing Administration Minimum Data Set Post Acute Care System.

SOURCE:

NPUAP Position Statement On Reverse Staging: www.npuap.org

RELATED PROCEDURES

None

PRESSURE ULCER DRESSING CHANGE

PURPOSE

- To remove secretions and dead tissue from the wound.
- To decrease infection in wound.
- To promote healing.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

CHOOSING A PRESSURE ULCER DRESSING

Choosing the correct dressing is guided by four questions:

- What does the wound need? (drained, protected or kept moist)
- What does the dressing do?
- How well does the product do it?
- What is available and practical?

HYDROCOLLOID

- Adhesive moldable wafers usually have waterproof backings.
- Impermeable to oxygen, water, and water vapor and have some absorptive properties.

TRANSPARENT

- Clear adherent and non-absorptive.
- Polymer based permeable to oxygen and water vapor but not to water.
- Allows visual inspection.
- Use on partial thickness wounds with minimal drainage.

ALGINATE

- Made of seaweed, alginate dressings are non-woven, absorptive dressings available as soft white sterile pads or ropes.
- Absorb excessive exudates and may be used on infected wounds.
- Absorb drainage, turn into a gel that keeps the wound bed moist and promotes healing.
- When there is no longer drainage, change to a different product.

FOAM DRESSINGS

- Sponge-like polymer dressings that may be coated with other materials.
- Somewhat absorptive, may be adherent.

- Promote moist wound healing.
- Useful when non-adherent surface is desired.

HYDROGEL DRESSINGS

- Water based and non adherent.
- Polymer based and have some absorptive properties.
- Available as a tube, as flexible sheets and as saturated gauze packing strips.
- Cooling effect may relieve pain.

EQUIPMENT/SUPPLIES

- Irrigation set or irrigating syringe
- Gloves. (sterile and non sterile)
- Sterile saline and basin
- 4 x 4 gauze sponges
- Cotton swabs
- Wound measuring device
- Topical dressing per order
- Hypoallergenic tape or netting
- Betadine solution
- Betadine swabs
- Plastic bag for waste

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Explain procedure to client.
4. Put on gloves and remove old dressing and discard.
5. Note color amount and odor of drainage and presence of necrotic debris.
6. Apply new pair of gloves.
7. Measure wound perimeter with disposable device.
8. Using syringe, irrigate with force to remove necrotic tissue and decrease the presence of bacteria in the wound.
9. Assess for undermining or wound tunneling by inserting sterile swab into the wound. (tunneling indicates wound extension) Measure length of undermining (tunneling).
10. Cleanse the wound bed.
11. Note condition of wound bed and surrounding skin. (If necrotic tissue adheres to wound, notify physician or wound care specialist for debridement).
12. Apply topical dressing (as appropriate for wound and as ordered by physician.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of procedure.
- Specific treatment.
- Location, size of ulcer.
- Color and appearance of wound bed.
- Amount color and consistency of drainage.
- Condition of surrounding tissue.
- Changes in general condition - complaints of pain, elevated temperature.
- Physician notification.
- Preventive measures taken.
- Teaching done.
- Client response.

RELATED PROCEDURES

None

MANAGEMENT/PREVENTION OF PRESSURE ULCERS

Prevention is the key to the management of pressure ulcers. Risk factor reduction must be a component of managing and treating existing ulcers and preventing them whenever possible.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

THE BRADEN SCALE

Commonly used tool in predicting ulcer risk. Six areas are evaluated to determine risk using a numeric scale. The lower the score the higher the risk. The areas are:

- Sensory perception: How well the client can voice and respond to pressure-related discomfort. The ability to respond to pressure related discomfort - high risk groups include paraplegics or quadriplegics with no sensation.
- Moisture: The degree to which the skin area is exposed to moisture daily. Consider incontinence, draining tubes, and diaphoresis.
- Activity: Degree of physical activity – based on how well and how much the client walks or if the client spends most of their time in a chair or bed.
- Mobility: The client's ability to change and control body position.
- Nutrition: Consider the usual intake of protein servings per day, including clients on tube feedings and intravenous nutrition.
- Friction and Shear: Potential for skin and tissue distortion based on the individual's ability to maintain position. If a person frequently slides out of position or has repeated episodes of skin and tissue trauma, they would be rated at-risk.

THE NORTON SCALE

Consists of five parameters that rate the client's physical condition, mental condition, activity, mobility, and incontinence. Each parameter has four descriptors that are rated from 4 to 1. The total scores can range from 5 to 20, with lower scores indicating a higher risk for pressure injury formation.

IDENTIFYING RISK FACTORS AND IMPLEMENTING PREVENTION MEASURES

Skin Inspection:

- Consider the temperature of skin and areas of redness, edema, and presence of injured skin.
- Consider whether skin over bony prominences or under medical devices.

- Nonblanchable erythema should be classified as an injured area and addressed through interventions that remove the source of injury and treat the skin damage.

Risk Assessment:

- Assessing for the contributing risk factors places emphasis on early identification of risk and timely application of prevention methods.
- Risk assessment tools are used to determine the contributing factors that affect skin and tissue tolerance to pressure.

Off-Loading Pressure:

- Turning every 2 hours is the traditional standard to decrease the amount of time that bony prominences are exposed to pressure.
- Use positioning devices such as wedges or pillows. Turning and positioning clients at a 30-degree angle rather than perpendicular to the bed offloads the trochanter areas from pressure. Maintaining the head of the bed at 30 degrees or lower minimizes exposure to shearing forces in the sacral area and heels.
- Support surfaces minimize skin, tissue, and blood vessel compression as well as shearing forces.
- Use a seating cushion that offloads pressure from sacral, coccyx, and ischial tuberosities; provides additional protection when in seating position.
- Adjust or pad appliances, casts, splints, etc.
- Avoid artificial sheepskin as it does not decrease pressure.

Skin Care

Hydrated, well-nourished, and well-perfused skin and tissues are able to tolerate pressure differences for long periods.

- Use gentle pH-balanced no-rinse cleanser, which help remove irritants.
- Moisturize to promote skin health.
- Avoid heat lamps and harsh soaps.
- Barrier creams that provide skin protection by creating a film to repel urine and stool from the skin.

Nutrition

- Weight loss and reduced muscle mass decrease the body's ability to redistribute weight from bony prominences.

- The use of screening tools that measure protein-calorie intake, protein-calorie needs based on present condition, body mass index, and recent unexplained weight loss create a picture of the situation.

- Consult with a registered dietician to determine the nutritional needs based on the individual client.

Hydration

Monitor for signs of fluid needs through changes in weight, changes in skin turgor, changes in urinary output, urine concentration and actual fluid intake.

RELATED PROCEDURES

None

SURGICAL STAPLE/SUTURE REMOVAL

PURPOSE

- To remove staples from an incision or wound.
- If wound edges are separated or if signs of infection are present, the wound has not healed properly. Notify the physician before proceeding with staple removal.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses (per state nurse practice act or agency policy)
- Other (Identify): _____

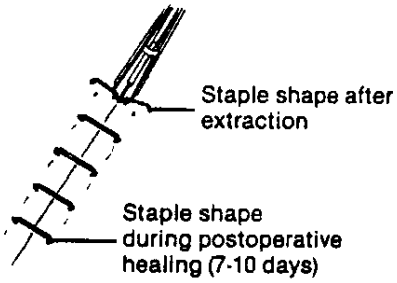
EQUIPMENT/SUPPLIES

- Antiseptic swabs
- Butterfly adhesive strips
- Disposable gloves
- Sterile gloves
- Disposable, waterproof bag
- Dressing supplies, as needed
- Staple extractor
- Suture removal kit (scissors and forceps)

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Position the client for easy access to incision.
3. Place disposable, waterproof bag next to the client and within reach.
4. Prepare sterile field and open supplies, maintaining sterility.
5. Don clean gloves.
6. Remove old dressing.
7. Hold soiled dressing in hand and remove glove to wrap inside out around dressing. Repeat with second glove. If amount of dressing is too great, place dressing directly into waterproof bag, then remove gloves and dispose of in bag.
8. Assess wound characteristics, size, and appearance. Use same measurement method throughout, i.e., inches or centimeters.
9. Don sterile gloves.
10. Cleanse staples and incision with antiseptic swabs.

11. Place lower tips of staple extractor under first staple.



12. Close handle. The upper tip of the staple extractor depresses the center of the staple. This causes both ends of the staple to bend upward and exit their insertion sites at the same time.
13. Securely hold staple extractor and move the staple away from the incision site.
14. Holding the staple extractor over the disposable bag, release handles. The staple should drop into the bag.
15. Repeat until all staples are removed.
16. Assess incision site.
17. If any separation is present, place butterfly adhesive strips across the incision line. This maintains contact between wound edges for healing.
18. Apply dry dressing, if needed. Expose to air if incision will not come in contact with clothing.
19. Remove gloves and dispose of waste as outlined in the Agency Waste Disposal Policy.
20. Wash hands. Refer to Hand Washing procedure.

SUTURE REMOVAL:

1. Place gauze a few inches from the suture line.
2. Grasp scissors in dominant hand and forceps in non-dominant hand.
3. Grasp know of suture with forceps and gently pull up to slip tip of scissors under suture near the skin. Snip the suture and pull suture through from the other side. Place removed suture on the gauze.
4. Continue until all sutures have been removed.
5. Inspect incision site to make sure the entire suture and all sutures are removed and to identify any areas of concern.
6. Gently wipe the incision line with antiseptic swabs.
7. Apply steri-strips if any areas of separation.

8. Apply dry dressing if needed. Expose to air if incision will not come in contact with clothing.
9. Remove gloves and dispose of waste as outlined in the Agency Waste Disposal Policy.
10. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of the procedure
- Cleansing of the suture line.
- Incision characteristics and any bleeding, drainage, or wound separation.
- Number of staples removed.
- The client's tolerance of the procedure.
- Notify physician of suture line separation, dehiscence, evisceration, bleeding or purulent drainage.

RELATED PROCEDURES

Application of Dry Dressing

ORTHOPEDIC PIN CARE

Surgical placement of pins or wires restores alignment and gives support to an extremity or affected bone. With these devices, a pin makes a direct pathway to the bone. The pathway increases the risk of infection, so it is extremely important to keep the pin and the skin around it as clean as possible.

PURPOSE

To keep pin sites clean, free from infection, discomfort and pain.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile, cotton-tipped applicators
- Hydrogen peroxide/normal saline solution (1:1)
- Antibiotic cream or iodine solution as ordered
- Normal saline
- Towel or absorbent pad
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Place a pad or clean towel under the area to be cleaned.
3. Don clean gloves.
4. Observe the pin sites for signs of infection, swelling or redness.
5. Dip sterile applicator in hydrogen peroxide/normal saline solution (1:1).
6. Place applicator by the pin and roll it along skin, away from the insertion site.
7. Dispose of applicator.
8. Dip a new sterile applicator in normal saline and roll applicator across the skin, away from the pin. Use a new swab for each stroke, clean until you have made a complete circle around the pin.
9. As you are cleaning the skin around the pin, pull the skin away from the pin with the cotton swab. Use the swab to remove any crust at the pin site. Remove the crust by making an outward stroke from the pin site. It may take several strokes to remove crust; use a clean swab for each stroke.

10. Look for signs of infection at the pin site. These signs include redness, increased pain, swelling, pus-like drainage, or blank tissue around the pin site. Report these immediately.
11. Clean the pin itself with a cotton swab and the solution. Wet the swab and place the swab where the pin enters the skin and make a stroke along the pin, moving away from skin. Use a clean swab for each stroke.
12. Repeat procedure for other pin site(s).
13. Assess pin sites. *(*It is important to note the placement of the pins on the skin so that any signs of the pins becoming dislodged can be noted and reported immediately to the physician*).*
14. Remove gloves and dispose of waste as outlined in the Agency Waste Disposal Policy. Solution may be saved and used again for up to 24 hours. Be sure to seal and mark the container with solution date and time.
15. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance of site, drainage, redness, or swelling.
- Black tissue around pin site.
- Level of pain and discomfort.
- Vital signs teaching done. Report any temperature of 101° or above.
- Client caregiver response.

RELATED PROCEDURES

None

RESIDUAL LIMB (STUMP) CARE

PURPOSE

- To prevent deformities and shrinking of the stump.
- To protect the stump.
- To shape the limb in preparation for prosthesis.
- To provide guidelines for care and correct Ace -wrapping of a residual limb.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Two to three 4-inch Ace bandages

PROCEDURE

Gravity causes fluid to accumulate at the stump so it is important to check frequently for swelling or edema. After a below the knee amputation maintain knee extension to prevent hamstring muscle contraction.

1. Wash hands. Refer to Hand Washing procedure.
2. Gently remove old wrap.
3. Assess residual limb.
4. Instruct the client and perform limb care:
    a. Clean daily with mild soap and water.
    b. Rinse and dry thoroughly.
    c. Avoid powder or lotion which may soften or irritate the skin.
    d. Massage the limb toward the incision line. Massage stimulates circulation and prevents scar tissue from adhering to the bone.
    e. Avoid exposing end of limb to excessive perspiration. To avoid, the client may need to change the Ace bandage during the day.
    f. If residual limb is sensitive to touch, rub with a dry washcloth for four minutes, three times per day.
5. Instruct the client in and assess for amputation muscle symptoms (twitching, spasms, and phantom limb pain). Decrease symptoms by using heat, massage, or gentle pressure

as directed by the physician. Avoid lotions, oils, or creams unless prescribed.

6. Change the Ace bandage wrap at least daily.
7. Above the knee or elbow wrap:

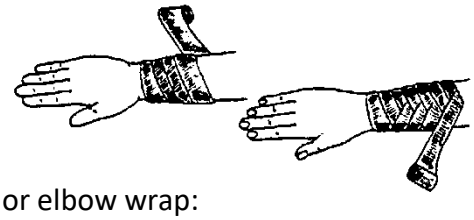
a. Hold the end of the first Ace bandage at the top of the thigh or upper arm. Bring the bandage's opposite end downward over the residual limb and to the back of the leg or arm.

b. Make three turns back and forth to adequately cover the ends of the limb. Use figure-8 turns around the leg or arm.

c. Be sure to extend the wrap to the groin or shoulder area. Use even pressure wrapping the residual limb, keeping it narrow toward the end.

d. Secure the bandage in place with clips or adhesive tape.

e. Pictures do not match the instructions.



8. Below the knee or elbow wrap:
9. Start by obtaining two 4-inch ace bandages. Center the end of the first bandage at the top of the client's thigh. Unroll the bandage downward over the stump and to the back of the leg. Make three figure eight turns to adequately cover the ends of the stump. As you wrap, be sure to include the roll of flesh in the groin area. Use enough pressure to ensure that the stump narrows toward the end. This will help with fitting into the prosthesis. Use a second ace bandage to anchor the first bandage around the waist. Anchor the bandage with clips or safety pins.

a. Hold the end of the first Ace bandage and wrap around limb above knee or elbow to anchor.

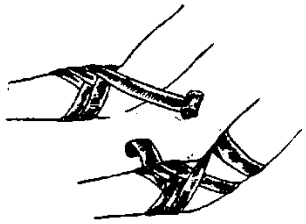
b. Loop the bandage over the lower, lateral corner of the limb. The skin is pulled forward with the wrap.

c. Continue the wrap up and around behind the limb. This wrap is below the first anchoring wrap, but slightly overlapping the lower edge of the wrapped bandage.

d. Begin to add tension (1/2 to 2/3 of bandage stretch) to the wrap. Loosen if the client complains of throbbing.

e. Wrap the inner corner so the entire residual limb is covered.

f. Continue wrapping in figure-8 style with each wrap slightly overlapping the preceding layer.



5. Ensure there are no wrinkles or sags in the wrap. Rewrap if the wrap bunches at the end.
6. Instruct the client to report any drainage, warmth, tenderness, or foul odor through
the wrap.
7. Hand wash soiled bandage wraps daily. Lay flat or hang to dry.
8. Remove gloves and wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Site and characteristics of residual limb. Condition of stump and skin.
- Date, time, and procedure performed.
- The client's tolerance of the procedure.
- Instructions to the client or caregiver. Other pertinent findings.

RELATED PROCEDURES

None

SOAKS

Soaks involve immersion of a body part into warm water or a medicated solution. Soaks are used to soften exudates, facilitate debridement, clean wounds or burns, rehydrate wounds, apply medications, and increase local blood supply and circulation.

PURPOSE

To cleanse a wound.

To relieve pain and inflammation.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Basin
- Prescribed soaking solution
- Towels
- Disposable, waterproof bag
- Dressing supplies, as needed for wound care
- Disposable gloves (sterile or non-sterile, depending on procedure)

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Prepare soaking solution and warm water in basin. Be sure the water is not too hot. Temperature should not exceed 110° F.
3. Position the client to aid soaking process.
4. Place a pad or towel under the basin to absorb spillage.
5. Apply clean gloves, remove soiled dressing, if applicable, and remove gloves.
6. Assist the client to place wounded area in the basin.
7. Soak for prescribed amount of time (10 to 20 minutes).
8. Observe for signs of tissue intolerance, including redness at the treatment site, excessive drainage, bleeding, and maceration.
9. Periodically, add warm water to the basin to maintain consistent temperature.
10. When soaking is complete, don gloves, remove wounded area from solution. Gently dry with clean towel, patting skin surfaces. Remove gloves.

11. Don gloves and apply dressing to wound according to the appropriate wound care dressing procedure.
12. Remove gloves. Clean any reusable equipment and dispose of disposable supplies as outlined in the Agency Waste Disposal Policy.
13. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date, time, and length of soak.
- Area soaked and the solution used.
- Characteristics of the wound before and after procedure.
- The client's tolerance of the procedure.

RELATED PROCEDURES

Wound Care Dressing Procedures

WOUND PHOTOS

PERMISSION

Obtain photo consent as required by your agency or facility.

FREQUENCY

Photos should be taken on admission, weekly thereafter, and at wound closure. All efforts should be taken to protect client privacy with regard to HIPAA compliance.

LIGHTING

Use natural light with no flash if possible. If the light source is behind you, make sure your body does not create a shadow.

BACKGROUND

The objective is to show the wound on a solid background. Drape the client in dark cloth as it helps to absorb the flash and decrease reflection off of the skin. Shiny underpads that reflect the flash should be avoided.

- Avoid clutter in the background.
- Include a ruler with date, length, width, and depth of the wound in each photo.
- Position the client in the same manner for each set of photos to show consistency as the wound progresses. Also, try to take the photos at the same time of day for consistency with lighting.
- Take the shot from the same angle each time. It is best to have the camera pointing perpendicularly at the wound, instead of down from the top.
- Take a minimum of three shots per wound site at each visit
- Guidelines on the use of cell phones as image device:
    - Policies should clearly establish if employees can or cannot take unauthorized photographs of clients or any PHI
- Confidential accurate client identification:
    - Determine the type of information to include such as initials, medical record number, date and time markings, etc.
- Maintaining photographs safely and effectively:
    - Determine where photographs will be stored.
    - Decide who will have access to the photos.
    - Establish how photographs will be copied from the camera, integrated into the medical record and removed from the camera.
- Method of releasing copies to clients upon request”

- Authorization form
- It should be understood that states differ regarding the admissibility of photographs in court cases. Therefore, practitioners should investigate this issue within their state of practice for details of liability.

WOUND DRAIN MANAGEMENT

Drains are used both prophylactically and therapeutically; the most common use is prophylactically after surgery to provide a route through which body fluids and air can be evacuated from the surgical site and prevent accumulation. In any surgical procedure in which a dead space (cavity) is created, the body has a natural tendency to fill this space with fluid or air. Drains may be used to form a controlled fistula, e.g. after a bile duct exploration. Therefore, the use of drains help prevent deep wound infections and facilitate the wound healing process.

The action of wound drains is defined as passive or active.

Passive Drains: Depend on the higher pressure inside the wound, combined with capillary action and gravity to draw fluid out of a wound or body cavity. A passive wound, e.g. a Penrose drain, does not require special attention. The wound dressing is changed if it becomes saturated with drainage; if the drain is attached to a reservoir, that container is emptied or changed when full.

Active Drains: These use low or high pressure (i.e. suction) to remove accumulated fluid from a wound. Active drains do require some special maintenance. The collection reservoir of an active drain expands as fluid is collected by exchanging negative pressure for fluid. If the vacuum is lost, the drain will lose its effectiveness.

PURPOSE

To remove secretions from wound or incision.

To decrease microorganism growth.

To prevent infection. and promote healing.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Graduated measuring container
- Sterile dressing tray or individual supplies
- 2x2, 4x4 sponges and or transparent dressings
- Sterile and non sterile gloves
- Towel or disposable pad
- Sterile applicators
- Betadine solution and/or swabs
- Bacteriostatic ointment
- Bag for disposing of waste

DRAIN TYPES

Penrose Drain: Thin-walled cylinder of radiopaque latex or silicone, which is available in various diameters, depending on surgeon's preference. These drains are commercially available sterile and individually packaged, many with a safety pin. Once the drain is inserted, the sterile safety pin is attached on the outside of the drain close to the skin to prevent the drain from retracting into the wound. Be sure Penrose drain has a sterile safety pin in place. (Use caution when removing dressing to ensure drain is not pulled out.)

Closed Wound Drainage Systems: A closed wound drainage system drains into a sterilized airtight tubing and container; some type of a suction-generating device is used. Jackson-Pratt or a Hemovac drainage system are examples of closed wound drainage systems. In this system, the tubing connects to a reservoir (either bulb evacuator or spring loaded device which uses negative pressure to draw fluid out of the incision via a drain. The systems listed below are low-pressure drains.

Bulb Reservoirs: Usually 100ml or 400 ml. The clear silicone walls of the reservoir permit easy activation of suction and facilitate identification and measurement of the drainage. They are easy to empty and reactivate. The reservoirs have an internal, anti-reflux, one-way valve to prevent backflow of fluid to the client.

Spring Reservoir (Hemovac): Provides easy activation of suction. It has an anti-reflux valve to prevent backflow and clamps on the tubing allow for activation and hold. The transparent sidewalls of the reservoir have clearly marked graduations that facilitate identification and measurement of drainage.

PROCEDURE

21. Penrose Drain:
    a. Gather equipment.
    b. Wash hands. Refer to the Hand Washing procedure.
    c. Explain procedure to client.
    d. Apply gloves.
    e. Remove dressing and dispose.
    f. Assess wound drain insertion site for redness, drainage, pain.
    g. Clean with betadine pads or swabs as ordered--moving from drain outward.
    h. Place gauze dressing around drain insertion site.
    i. Place 4x4 over drain and cover with ABD and tape.

22. Hemovac Drain:

    a. Open plug on port indicated for emptying the drainage.
    b. Tilt container in direction of the plug and slowly squeeze the flat surfaces together. Drain fluid into container to measure.

c. When empty, compress the hemovac flat and replace stopper. Compression creates and maintains suction.

23. **Jackson Pratt (bulb drain):**

a. Empty by opening the spout, tilt the drain toward the opening. Squeeze the bulb and empty drainage into measuring container. Cleanse the ends of the emptying port with an alcohol sponge while continuing to compress the container. Replace cap. Secure bulb below the wound site.

24. Care of Invasive Device Sites:

a. Assess drain insertion sites for signs and symptoms of infection.

b. Maintain patency of invasive devices.

- Connect drainage tubes and monitors to prevent twists, kinks, leaks, and obstructions.
- Maintain and monitor suction devices that may be connected for drainage.

c. Provide care to the invasive devices according to manufacturer's instructions.

d. Use aseptic technique when providing care to invasive device sites or system.

- Use sterile gloves to touch drainage device insertion sites.
- Use sterile supplies and equipment.
- Cleansing or changing the tube drainage site and system as needed.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Location type of wound or incision/drain insertion site.
- Type and amount of drainage.
- Status of wound and drain.
- Teaching done.
- Client response to procedure and teaching.

RELATED PROCEDURES

None

V.A.C. WOUND THERAPY (VACUUM ASSISTED CLOSURE) ALSO KNOWN AS NEGATIVE PRESSURE WOUND THERAPY

Wound vacuum assisted closure speeds wound healing by applying localized negative pressure to draw the edges of a wound together. V.A.C. accelerates wound healing by promoting the formation of granulation tissue, collagen, fibroblasts and inflammatory cells to completely close or improve the health of a wound. The use of negative pressure removes fluid from the area surrounding the wound, thus reducing edema and improving circulation to the area. The negative pressure can be continuous or intermittent depending on the stage of healing. To optimize healing negative pressure should be maintained 22–24 hours per day.

- **Indicated:** For acute and traumatic wounds, pressure ulcers and chronic open wounds.
- **Contraindicated:** For fistulas that involve body cavities, necrotic tissue, malignant wounds and untreated osteomyelitis
- **Use with caution in clients with active bleeding.**

PURPOSE

- To enhance delayed or impaired wound healing.
- To mechanically stimulate the wound bed, facilitating wound contraction, and promoting granulation tissue formation.
- To remove interstitial fluid allowing tissue decompression.
- To remove infectious materials.
- To maintain a moist wound-healing environment.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy.)
- This skill should not be delegated to assistive personnel.
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Order should include the wound-filling material and any specific adjuncts such as protective nonadherent dressing or contact layer, negative pressure setting (range is from -20 to -200).

- Normal saline solution
- Clean gloves and sterile gloves
- Piston syringe with 19-gauge catheter
- Foam
- Fenestrated tubing
- Evacuation tubing

- Skin protectant.
- Vac dressing kit with scissors
- Transparent occlusive air permeable drape
- Evacuation canister
- Vacuum unit
- Emesis basin
- Gown, mask and goggles as indicated
- Chux
- Waterproof bag for disposal

PROCEDURE

1. Wash hands. Refer to Hand Washing Procedure.
2. Gather equipment.
3. Explain the procedure to the client.
4. Place chux or other linen saver under client.
5. Push therapy on/off button on VAC system. Close clamp on tubing.
6. Raise tubing connectors above level of the VAC system and disconnect the tubes from each other to drain fluids into canister. Before lowering tighten clamp on the canister tube.
7. With the dressing tube unclamped, introduce 10 to 30 ml of saline if ordered into tubing to soak underneath foam. Let set for 15-30 minutes.
8. Put on gloves.
9. Gently stretch transparent film horizontally and slowly pull up from skin.
10. Remove dressing, observing appearance and drainage on dressing. Use caution to remove dressing around drains. Dispose of soiled dressing in waterproof bag.
11. Remove gloves and put on clean gloves.
12. Attach the catheter to the syringe and irrigate the wound with normal saline.
13. Examine wound bed. It should have pink/red granulation tissue. Note any drainage, tunneling, cavities. Assess wound size; a measuring tape is included in the kit.
14. Clean around the wound, dry the skin and apply the skin protectant. Allow it to dry well.
15. Remove gloves and put on sterile gloves.
16. Use sterile scissors cut the foam to the shape and measurement of the wound.
17. Place the foam in the wound. More than one piece of foam may be necessary.
18. Fill the wound with enough foam so that when the vacuum is applied, the height of the foam is close to the top of the wound margins.

19. Place the fenestrated tubing into the center of the foam (this tubing embedded in the foam delivers the negative pressure to the wound).
20. Place the transparent drape over the foam, enclosing the foam and the tubing.
21. Remove and discard gloves.
22. Connect the free end of the fenestrated tubing to the tubing that is connected to the vacuum canister.
23. Turn on the vacuum unit.
24. Dispose of drainage and waste according to agency waste policies.

CARE CONSIDERATIONS

- Change dressing every 48 hours or as ordered by the physician. Label the dressing with date, time, initial, and number of pieces of foam placed in the wound.
- Measure the amount of drainage daily or more often if indicated.
- Alarms will alert caregiver if unit is tipped greater than 45 degrees, if canister is full, if there is an air leak or the canister becomes dislodged.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of therapy.
- Amount of negative pressure applied.
- Size and condition of the wound.
- Client level of pain and signs symptoms of infection.
- Client response to treatment.

RELATED PROCEDURES

None

UNNA BOOT

This is a non elastic paste bandage boot that can be used to treat uninfected, non-necrotic leg and foot ulcers that result from such conditions as venous insufficiency and stasis dermatitis.

A commercially prepared Unna boot is gauze compression dressing that is impregnated with a preparation known as Unna Paste (gelatin, zinc oxide, calamine lotion, and glycerin). The dressing wraps around the affected foot and leg. Its effectiveness results from compression supplied by the bandage, decreasing edema; combined with moisture supplied by the paste.

Contraindicated in persons with allergies to ingredients and in persons with arterial ulcers, weeping eczema, or cellulitis.

PURPOSE

- To promote healing of stasis ulcers.
- To decrease edema and apply constant compression.
- To minimize cellulitis.
- To minimize pain and infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Unna boot or medicated compression dressing as prescribed by physician
- Irrigation or cleansing solution
- Gauze or elastic bandage
- Hypoallergenic tape
- Gloves
- Plastic bag for waste
- Scissors

PROCEDURE

1. Gather equipment and explain procedure.
2. Wash hands. Refer to Hand Washing Procedure.
3. Place plastic sheet or towel under the extremity.
4. Put on gloves.
5. Remove old dressing, assess drainage and discard in plastic bag.
6. Clean and irrigate the wound following physician orders.

7. Assess the wound for evidence of healing or signs of infection.
8. Assess skin condition around the wound. Assess circulation by evaluating dosalis-pedis or posterior tibial pulse.
9. Apply the Unna boot by wrapping the dressing from the toes to below the knee to control edema.
10. Cover the heel using oblique turns and wrap the leg using circular figure 8 turns, overlapping each turn by half of the medicated dressing.
11. Cover the entire area 2-3 times.
12. Cut and smooth the dressing to avoid creases.
13. Apply a clean gauze or elastic bandage for support and to absorb drainage, then secure with hypoallergenic tape.
14. Dispose of used items and remove gloves.
15. Wash hands. Refer to Hand Washing Procedure.
16. Change the dressing 1-2 times per week or as ordered.

DOCUMENTATION GUIDELINES

Document in the clinical record.

- Procedure performed, date, and time.
- Condition of skin and presence of pulse in affected foot
- Specify which leg or both.
- Name equipment used.
- Status of wound and sign symptoms of infection.
- Wound measurements at least weekly.
- Teaching performed.
- Client response.

RELATED PROCEDURES

Dressing Changes and Wound Care

WOUND MEASUREMENT

Wound size is one of the fundamental parameters used to judge healing and resolution of a wound. Wounds can be evaluated with either a two- or three-dimensional measurement and usually expressed in centimeters.

Two-dimensional measurement: Evaluates the length and width of the wound, but not the depth.

Three-dimensional measurement: Includes the length, width, and depth; it is the method most often used because it provides a more detailed description of the wound.

PROCEDURE

1. Begin by envisioning the sound bed as a clock face, with the client's head being at 12 o'clock, and the client's feet at 6 o'clock. 3 o'clock is the client's left side, and 9 o'clock is the client's right side.
2. The **length** readings should be obtained by aligning the measurement guide by the wound and reading the measurements from the long axis of the body (head to toe).
3. A second measurement is made of the greatest width (left to right).
4. The **depth** of the wound is gauged by placing a cotton-tipped applicator into the deepest area of the wound and then holding the applicator with a gloved finger in the area where it is flush with the skin.
5. The complete three-dimensional linear reading should be recorded as length × width × depth, and the reading should be in centimeters.
6. All clinicians should follow the same policies and methods, or the measurements will be unreliable.
7. Presence of undermining or tunneling:
    a. The terms tunneling and sinus tract are used interchangeably to describe a passage of tissue destruction within the wound.
    b. **Undermining** is an area of tissue destruction under the intact skin along the periphery of the wound.
    c. It is important to be precise when measuring for tunneling and undermining. Use the same approach as before, in looking at the wound as a clock face, and measure the tunneling or undermining in relation to the client's position.
    d. To measure **tunneling**: Use a cotton-tipped applicator and probe until the end of the tunnel is located. Measure this distance on the applicator. Example: If two centimeters of tunneling at the top margin of an abdominal wound, describe as 2 cm of tunneling at 12 o'clock.

e. For undermining, there may be a larger area but measurements are taken the same way. Measure the location of undermining and the area covered. May document as follows: 3 cm of undermining from 12 to 3 o'clock, 2 cm of undermining from 4 to 6 o'clock, etc. Accuracy and consistency are most important.

f. Wound measurements are done with routine wound care procedures. If possible, the same person should do the measurements for consistency.

g. Documentation of wound measurements is part of the required documentation for all wound care procedures.

EYE PROSTHESIS CLEANING

PURPOSE

- To maintain integrity of the eye socket and eyelids.
- To prevent infection and/or irritation of neighboring tissues.
- To maintain the client's self-image.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Wash basin with warm water or saline
- 4" x 4" gauze pads, soft washcloth
- Mild soap (like baby shampoo) and water
- Suction device (optional)
- Facial tissues
- Covered storage case, if necessary
- Bath towel
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Assist the client into a sitting or side lying position to help with removal of prosthesis.
    a. Cleaning the prosthesis every 2 to 3 weeks is ideal.
3. Cover bottom of the basin with washcloth and fill with water. This provides a soft cushion for the prosthesis to prevent it from being scratched and/or damaged.
4. Don clean gloves.
5. With thumb or middle finger, gently retract lower eyelid, exerting slight pressure under the lower eyelid. This exposes the lower edge of prosthesis and causes a break in the suction, allowing prosthesis to slide out of socket. To catch the prosthesis when it falls out, cup other hand under prosthesis.
6. If the prosthesis does not slide out, a suction device can be used. Attach device, apply pressure, and gently move the device back and forth to loosen the suction.

Pull out and over the retracted lower lid. Slide prosthesis under the upper lid and out of the cavity.

7. Place prosthesis in palm of hand or in basin.
    a. Clean prosthesis with mild soap and water by rubbing between fingers.
    b. Rinse well with tap water.
    c. Dry with soft washcloth or gauze pad. Polishing the prosthesis with a cloth retains shiny appearance of normal eye.
    d. A professional polish is the only way to remove the protein attachments and bacterial infiltration; recommended every 6 months.
8. If prosthesis is not to be immediately reinserted, store in labeled container with water or normal saline. This maintains condition of prosthesis.
9. Clean and dry eyelid margins and socket moving from the inner to outer canthus, using a clean section of cloth for each wipe. Cleansing method prevents secretions from entering the tear duct in the inner cannula.
    a. Retract upper and lower eyelid margins.
    b. Wash socket with washcloth or gauze soaked in warm water or saline.
    c. Dry socket well with gauze pads.
    d. Using mild soap and water wash the eyelid margins.
    e. Dry eyelids.
10. To reinsert prosthesis, moisten with water.
11. With dominant hand, hold the prosthesis with notched edge toward the nose. With the other hand, retract the upper eyelid and place pressure on the bony part of the upper orbit. Slide prosthesis up and under the upper lid as far as possible. Depress the lower lid to allow prosthesis to slip into place. Correct positioning ensures proper fit.
12. Check alignment of prosthesis. Wipe it towards nose, if necessary.
13. Assist the client into a comfortable position.
14. Remove gloves and clean work area. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Assessment of integrity of tissues surrounding eyelid and eye socket.
- Excessive, purulent, or foul drainage.
- The client's ability to perform self-care. Any teaching done and client/caregiver response.

RELATED PROCEDURES

None

EYE IRRIGATION

PURPOSE

- To remove secretions from the conjunctival site.
- To irrigate following the instillation of certain diagnostic drugs.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile 10 ml syringe or eye irrigating syringe
- Sterile kidney basin and round basin
- Prescribed solution
- Sterile gauze pads
- Towels
- Disposable gloves

PROCEDURE

1. Gather equipment.
2. Wash hands. Refer to the Hand Washing procedure.
3. Don clean gloves.
4. Position the client in a sitting or lying position with head tilted toward the affected side.
5. Draw up irrigating solution syringe.
6. Have client hold curved basin to catch solution.
7. Cleanse eye with sterile gauze pad wiping from inner to outer canthus. Use cleansing solution to wash eyelashes and eyelids. Use gauze pad only once.
8. Hold upper eyelid to keep eye open. Avert the lower conjunctival sac.
9. Instill irrigating solution at inner canthus, allowing it to flow to outer canthus. Do not touch the eyeball with dropper or syringe. Continue irrigating until eye is cleansed or amount of prescribed solution is used.
10. Be careful not to exert pressure on the eyeball.
11. Periodically, have the client close his/her eyes.
12. When irrigation is complete, gently dry the eye with sterile gauze pad.

13. If both eyes are to be treated, wash hands. Refer to the Hand Washing procedure. Apply new gloves before treating second eye.
14. Clean reusable equipment and dispose of disposable supplies as outlined in the Agency Waste Disposal Policy.
15. Remove gloves and wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

- Document in the clinical record:
- Solution name, dose, route, and time of administration.
- Status of eye and drainage characteristics.
- The client's tolerance of the procedure. Teaching done and response to teaching.

RELATED PROCEDURES

None

CARE OF THE CLIENT WITH CONTACT LENSES

PURPOSE

- To maintain integrity of artificial lenses.
- To prevent injury/infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Hard or soft contact lenses
- Storage container
- Saline solution
- Prescribed drops
- Lens disinfectant
- Enzyme solution
- Clean gloves

PROCEDURE

1. Explain the procedure to the client. Position the client for comfort either in a sitting or supine position.
2. Wash hands. Refer to Hand Washing procedure.
3. Don clean gloves.
4. To insert lenses, wet with appropriate solution.
5. To insert hard lenses, place lens with concave side up on tip of right index finger and place lens directly over cornea.
6. To insert soft lens, cup lens with right thumb and index finger and place directly over cornea.
7. If lens is not centered, instruct the client to close his/her eye, roll it toward the lens, and blink several times.
8. Remove hard lens by separating eyelids to expose lens. Apply slight pressure towards bony orbit above and below the client's eye using both thumbs. Move lower and upper lids toward the lens, applying slight pressure to lower lid to tilt lens. Grasp the lens as it slips from the eye.

9. Remove soft lens by retracting lower lid, adding a few drops of sterile saline solution and with tip of index finger on lower part of lens, slide lens off cornea. Gently squeeze the lens with thumb and index finger to create suction. Gently pinch lens and lift out.
10. Clean and disinfect lenses according to manufacturer's recommendation.
11. Place lenses in storage container with storage solution according to manufacturer's recommendation.
12. Remove gloves and dispose of supplies as outlined in the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The client's ability to perform procedure.
- Client tolerance of the procedure.
- Teaching done and response to teaching.

RELATED PROCEDURES

Eye Irrigation

EAR IRRIGATION

PURPOSE

- To irrigate or remove impacted cerumen or purulent discharge from the ear.
- To improve impaired hearing caused by ear wax.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Ear irrigation syringe
- Basin
- Towels
- Cotton balls
- Cotton-tipped applicators
- Medication/irrigation solution
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Don clean gloves.
3. Position the client in a sitting or lying position with head turned toward the affected ear.
4. Place towel under the client's head and shoulders and have the client hold basin under the affected ear.
5. Warm the irrigating solution to body temperature (95 to 100 degrees). Solution should not exceed 100 degrees. Hot or cold fluid may cause vertigo or nausea.
6. Clean the outer ear with cotton-tipped applicators. Do not force drainage or cerumen into the ear canal.
7. Fill the syringe with irrigating solution (approximately 50 ml).
8. Straighten the auditory canal:
    a. For adults, pull auricle upward and outward.
    b. For children, pull auricle down and backward.

9. Hold the tip of the syringe 1/2 inch above the opening to the ear canal. Slowly instill fluid into ear. Direct the stream of fluid against the sides of the canal. Do not occlude the canal with the tip of the syringe. Discontinue procedure if client complains of discomfort.
10. Continue irrigating until canal is clear or solution is used up.
11. Dry outer ear with cotton ball. Leave cotton loosely in place for five to ten minutes to absorb excess fluid.
12. Clean reusable equipment and dispose of supplies as outlined in the Agency Waste Disposal Policy.
13. Remove gloves and wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Ear procedure performed.
- Characteristics of drainage noted.
- The client's tolerance of the procedure.
- Report any client discomfort to physician.

RELATED PROCEDURES

Ear Instillations and Irrigation

CLEANING AND CHECKING A HEARING AID

There are three types of hearing aids:

- The newest and smallest (ITC) fit into the ear canal and are not visible, and do not interfere with normal activities. They do require manual dexterity to operate, change batteries, and insert. The function is also affected by the presence of wax in the ears.
- The second hearing aid fits into the external ear (ITE) and allows for more adjustment. It is more powerful and provides for a wider range of hearing loss. This is the most common type of hearing aid.
- The third type is a behind the ear type and is connected by a short clear, hollow plastic tube to an ear mold inserted into the auditory canal. This is used for clients with limited manual dexterity and progressive hearing loss.

PURPOSE

- Maintain hearing aid or correct the function of the hearing aide.
- Facilitate client participation through ability to hear.
- Promote self care.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Hearing aid and batteries
- Soap and water
- Petroleum jelly
- Pipe cleaner
- Bush and/or wax loop
- Cotton tipped applicators
- Towel and washcloth
- Container for storage
- Clean gloves

PROCEDURE

1. Determine the client's ability to perform procedure and teach as necessary.
2. Have client remove hearing aid if able.
3. Wash hands. Refer to the Hand Washing procedure. Put on gloves.
4. Check batteries if hearing aid not functioning.

   a. Turn volume on high.
   b. Cup hand over ear mold
   c. If no sound is heard, replace batteries (usually need changing weekly if worn daily).
5. Remove ear mold from the receiver before cleaning. Do not immerse the receiver in the water.
6. Wash ear mold with soap and water, a pipe cleaner or brush may be used to clean the holes in the hearing aid. Dry thoroughly.
7. Examine cord for breaks.
8. Reconnect receiver to dry ear mold.
9. Before inserting ear mold, check outer ear and clean as necessary.
10. Hold the aid so that the bore is at the bottom, insert the bore into the ear first, pull up and back on the outer ear and push the aid until it is snugly in place.
11. Bring the cannula of the BTE up and over the ear to prevent kinking.
12. Turn receiver switch to ON.
13. Assist client to adjust volume control.
14. If whistling or feedback noises occur, check for tightness of fit; it is likely not inserted properly.
15. When hearing aid not in use, place in container.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure and client ability to assist.
- Hearing level when aid is on.
- Any instruction given and response to teaching.
- Any pertinent findings observed and reported to the physician.

RELATED PROCEDURES

None

DOCUMENTATION OF INFUSION THERAPY

Medical records shall include sufficient information to identify the procedures, treatments, complications, intervention and outcomes of the prescribed infusion therapy. All documentation should be factual, accurate and legible.

APPLIES TO

- Registered Nurses who have demonstrated competency.
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

GENERAL GUIDELINES

The clinician will provide:

- Evidence that the specific treatment was administered.
- Documentation of initial client assessment, medication history, current medications, care plan and guidelines for interventions and monitoring of the prescribed therapies.
- A record of any client/caregiver education and training with return demonstrations as appropriate.
- Documentation of the assessed level of comprehension of the therapy and the skills needed to provide the care.
- Ongoing interventions and treatments during therapy.

SPECIFIC GUIDELINES

- Type of venous access device including gauge, length, insertion site and condition, date and time that the infusion was initiated.
- Name of the individual that inserted the access device.
- Number of attempts required.
- X-ray confirmation of placement when required.
- Therapy administered including start and end times.
- Client outcomes and tolerance of the procedure.
- Any other testing or interventions as ordered by the physician.

RELATED PROCEDURES

None

IV SITE DRESSINGS

All venous access sites will be cleaned using aseptic technique at the time of insertion. The dressing will be changed when it becomes loose, soiled or wet and at predetermined and specified time intervals.

Standard precautions are observed throughout the procedure.

PURPOSE

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

PROCEDURE

Gauze Dressings:

1. Cleanse the area with antiseptic solution.
2. Apply antiseptic ointment to insertion site per physician order or per agency policy/protocol.
3. Position sterile gauze over the insertion site.
4. Seal edges of the dressing with tape.
5. Do not cover dressing with roller bandage.
6. Change dressing every 48 hours or as ordered by the physician or agency policy/procedure.

Transparent Semipermeable Membrane Dressings

1. Cleanse area with antiseptic solution.
2. Apply transparent dressing according to the manufacturer's recommendations.
3. Position over the insertion site.
4. Smooth dressing from center toward edge.
5. Avoid sealing the dressing with tape.
6. Do not cover with a roller bandage.
7. Change immediately if there is excessive drainage or moisture or if the dressing becomes loose.
8. Change dressing on peripheral catheter sites when the site is rotated.
9. For other cannula sites, change dressing every 3 to 7 days.

***Note:** When a transparent dressing is applied over gauze, it is considered a gauze dressing and must be changed every 48 hours. Many kits and/or trays are custom made and contain all necessary supplies.

DOCUMENTATION GUIDELINES

- Procedure completed date and time
- Type of dressing used
- Observations of IV site for redness, drainage or pain

RELATED PROCEDURES

None

INFUSION THERAPY

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice acts and agency policy)
- Other (Identify): _____

SPECIAL CONSIDERATIONS

- Physician orders for IV therapy must include the type of solution, any medication additives, and the total 24-hour volume to be infused, and/or hourly rate. Medication orders will include name, dose, route of administration, frequency, and any specific instructions for administration.
- Client/caregiver's education is crucial for safe administration of infusion therapy.
- Written guidelines and return demonstrations are needed for all aspects of care.
- The agency will provide a 24-hour on-call nurse for clients who are receiving home IV therapy.
- The first dose of antibiotic therapy will be initiated in a controlled setting where emergency medical services are available. If an agency chooses to provide first dose in the home, they will have policies and procedures in place to address potential problems.
- Storage requirements, infusion preparation, administration, discontinuation, equipment management, and disposal of supplies must meet agency guidelines and be completely understood by the client/caregiver.
- The client/caregiver is informed of any possible side effects, potential problems, and when to call the home health agency.
- Only infusion therapies that have been established and proven to be safely administered at home, collaborated by community standards of practice with physician involvement, will be administered.

RELATED PROCEDURES

None

INS TERMINOLOGY/DEFINITIONS

PERIPHERAL – SHORT

- Less than or equal to 3 inches in length.
- Should be equipped with a safety device with engineered sharps protection for insertion.

PERIPHERAL – MIDLINE

- Between three (3) and eight (8) inches in length.
- Should be equipped with a safety device with engineered sharps protection for insertion.

PICC (PERIPHERALLY INSERTED CENTRAL CATHETER)

Introducers should be equipped with a safety device with engineered sharps injury protection

NON-TUNNELED CENTRAL CATHETER

Inserted into the jugular or subclavian vein.

TUNNELED CATHETER AND IMPLANTED PORT

- Groshong catheters, Hickman catheters.
- Port (venous or arterial).

PROCEDURES WILL REFLECT THESE TERMS IN TITLE RATHER THAN BRAND NAMES.

VENIPUNCTURE FOR BLOOD SPECIMEN COLLECTION

PURPOSE

To obtain a blood specimen by venipuncture for laboratory analysis using aseptic technique.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Tourniquet
- Needles (21g or 22g) and syringe (10 ml) or vacutainer, vacutainer needles, butterfly needle, or butterfly vacutainer set
- Blood specimen tubes
- Band-Aids alcohol swabs/single dose antiseptic solution
- 2 x 2 gauze
- Safety transfer device
- Disposable non-sterile gloves
- Labels, Laboratory slip and envelope/plastic bag
- Container with lid for transport
- Sharps container

PROCEDURE

1. Obtain the physician's order.
2. Gather equipment and position the client for comfort.
3. Thoroughly wash hands. Refer to the Hand Washing procedure. Don clean gloves. Goggles are to be used at the discretion of the Registered Nurse.
4. Use aseptic technique and observe standard precautions throughout the procedure.
5. Explain the procedure to the client. Schedule with the client the day before if any special preparations are required, i.e., fasting.
6. Apply tourniquet above the site. Antecubital Fossa site is most often the easiest to access. Check for radial pulse. If absent, the tourniquet is too tight.
7. Select vein, looking for prominent vein without swelling or hematoma.
8. Prepare the site with single dose antiseptic solution/ (2-3% aqueous chlorhexidine, 10 % povidone iodine, 70 % isopropyl alcohol, or tincture of iodine 2 %. **Do not** disinfect with aqueous benzalkoniym like compound or hexachlorophene.

9. Use friction - apply disinfectant in a circular motion working outward from site. Allow to dry. If using chlorhexidine, apply with sterile water, bathe and rinse. If using povodine-iodine do not use alcohol as second disinfectant. If using alcohol, apply for at least 30 seconds. Povodine-iodine (Betadine) is often irritating to skin, so other antiseptic/antimicrobial skin cleansers may be used. If orders specify Betadine, it can
be used.
10. Obtain blood sample:
    a. Syringe and Needle Method:
        1. Have syringe with needle securely attached. Hold syringe and needle at 5- to 30-degree angle from the client's arm with bevel up.
        2. Insert needle into vein, drawing skin taught immediately below puncture site. Hold syringe securely and pull back gently on plunger.
        3. Look for blood return. Obtain desired amount of blood, keeping needle stable.
        4. Remove the tourniquet as soon as blood flows adequately to prevent stasis that can impair test results. If the flow is slow, leave the tourniquet in place longer and always remove before withdrawing the needle.
        5. Apply a 2 x 2 gauze or alcohol swab over the puncture site without applying pressure. Quickly withdraw needle from vein and immediately apply pressure. Apply pressure for 2-3 minutes or until bleeding stops and then apply
        Band-Aid.
        6. Attach safety transfer device to syringe containing blood for test and allow vacuum to draw blood into the tube directing the flow toward the wall of
        the tube.
    b. Vacutainer Method:
        1. If using a needle holder and vacutainer tube, grasp the holder securely to stabilize it in the vein and push down on the collection tube until the needle punctures the rubber stopper. Blood will flow into the tube automatically.
        2. Attach double-ended needle to vacutainer tube.
        3. Have proper blood specimen tube resting inside vacutainer, but do not puncture rubber stopper.
        4. Hold vacutainer at 15- to 30-degree angle from site with bevel up.
        5. Insert needle into vein, drawing skin taught immediately below puncture site.

6. Grasp vacutainer securely. Advance specimen tube into needle of holder.
7. Note flow of blood into tube. It should be fairly rapid.
8. After specimen tube is filled, firmly grasp vacutainer and remove the tube. If more than one tube of blood is needed, (change tubes slowly, taking care not to dislodge the needle.
9. After the last tube has been filled, release tourniquet. Remove tube from the needle holder to release the vacuum before withdrawing the needle from
the vein.
10. Apply 2 x 2 gauze or alcohol swab over puncture site. Withdraw the needle and immediately apply pressure. Apply pressure for 2-3 minutes or until bleeding stops. This will prevent extravasations into the tissue and cause a hematoma.
11. Gently rotate blood tubes containing additives back and forth 8 to 10 times.
12. Inspect puncture site for bleeding and apply gauze with tape or Band-Aid.
13. Check tubes for any external contamination of blood.
14. Label tubes properly.
15. Place in biohazard bag with lab request. Place in container for transport.
16. Dispose of sharps and other equipment as outlined in the Agency Waste Disposal Policy.
17. Wash hands. Refer to Hand Washing procedure.
18. Deliver to lab/pickup site.

DOCUMENTATION GUIDELINES

Record in the clinical record:

- Date, time and site of venipuncture.
- Name of the test.
- Time the sample was sent to the laboratory.
- Amount of blood collected.
- Client's tolerance of the procedure.

SPECIAL INSTRUCTIONS

- Never draw from an arm or leg that is currently being used for I.V. therapy or blood administration as this may affect test results.

- Do not draw from an edematous area or an area with a hematoma because the vessel may be damaged.
- Don't use an arm on the side of a mastectomy because reduced lymphatic drainage may increase infection risk at the site.
- Never use an arm with an arteriovenous fistula (dialysis shunt). This may cause clotting or bleeding risk.
- Avoid using veins in the legs for venipuncture – this may increase the risk of thrombophlebitis.
- Do not routinely collect blood specimen from indwelling peripheral or midline catheter.

RELATED PROCEDURES

None

BLOOD DRAW FROM CENTRAL VENOUS ACCESS DEVICES

PURPOSE

To draw blood from a central line catheter for diagnostic tests.

EQUIPMENT/SUPPLIES

- Liquid soap and sanitizing gel
- Gloves
- 3-4 alcohol swabs or other disinfectant product
- 1-2 10 ml pre-filled syringes with 0.9% sodium chloride
- Syringes of sizes needed for blood draw or vacutainer blood draw device
- 10 ml syringe filled with 3-5 ml of heparin flush (100u/ml or as prescribed) (Heparin flush is not needed for Groshong catheter)
- Needleless connector
- Labeled blood tubes
- Safety transfer device
- Sharps container
- Occlusion clamp if needed

PROCEDURE

1. Explain procedure and position client.
2. Wash hands with soap and water and dry with clean paper towels.
3. Arrange supplies on clean surface.
4. Samples may be collected by syringe or vacutainer.
5. Turn off all infusions for one full minute.
6. Put on gloves.
7. Cleanse needleless connector with alcohol wipe or other disinfectant. Let dry.
8. Attach blood draw syringe to the needleless connector, aspirate 5 ml of blood, and discard.
9. Attach new syringe and aspirate the total amount of blood required.
10. Fill blood tubes doing coagulation studies test last if ordered.
11. If blood drawn using syringe, flush catheter with saline. (new needleless connector can be replaced before flush).
12. Attach safety transfer device to the syringe containing blood for test and allow vacuum to draw blood into the tube directing the flow toward the wall of the tub.

13. Transport tubes to lab per requirements of the laboratory.

Vacutainer:

1. Clamp the catheter.
2. Attach needle or needleless connector to vacutainer barrel holder.
3. Place the blood tube into the holder.
4. Disinfect the injection cap.
5. Remove needle cover and insert needle or needleless connector into the injection cap.
6. Unclamp the catheter.
7. Advance blood tube to activate blood flow.
8. Hold tube until blood flow ceases.
9. Discard this blood from the line - amount should be 1-2times the fill volume of the vascular access device.
10. Clamp catheter and move blood tube from holder and discard. Insert another tube, unclamp and obtain the specimen.
11. Remove the vacutainer holder from the cap.
12. Disinfect the injection cap.
13. Flush catheter with 5-10 ml of .9% sodium chloride (USP)

If blood flow slows or stops:

- Change blood collecting tube
- Change vacutainer device
- Flush lumen with 3-5 ml of 0.9% sodium chloride
- Have client change position or cough with hands held over head.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of procedure.
- Amount of blood drawn including discard amount.
- Type and amount of flush.
- Cap change.
- Client tolerance of procedure.

RELATED PROCEDURES

None

DRAWING FROM IMPLANTED VASCULAR ACCESS PORT

A vascular access port is accessed with a non-coring needle. This needle has a deflected and angled point that prevents coring or rubber removal during insertion and removal from the septum. The needle may be straight or bent at a 90-degree angle. Needles are available with or without a pre-connected extension tube.

PROCEDURE

1. Access the port using Huber needle (non coring) and extension set.
2. Clamp the extension set and remove the injection cap.
3. Attach empty 10cc syringe to tubing and unclamp.
4. Aspirate 3 to 5 ml of blood, clamp tubing, remove syringe and discard blood.
5. Attach syringe to hub, unclamp and draw blood.
6. Transfer to collection tubes.
7. Attach pre-filled injection cap attached to 10cc syringe of .9 % sodium chloride (USP) and flush.
8. Clamp tube and remove syringe.
9. Attach heparin filled syringe. Flush with 3-5 ml of heparin (100 units /ml) or as prescribed by the physician. Heparin flush is not required for Groshong port.
10. Remove non-coring needle or connect to infusion device.
11. Label tubes appropriately and place in plastic bag with lab requisition. Write on lab requisition, “Obtained through (type of catheter).” Place specimen and request slip in transport container.

If unable to obtain blood, remove the needle and repeat the procedure. Inability to obtain blood might indicate that the catheter is resting against the vessel wall. Ask client to raise arms, perform Valsalva’s maneuver or change position to free the catheter. If still unable to obtain blood, notify the physician.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Date and time of the procedure.
- Amount of blood drawn, from what site and laboratory tests requested.
- Client response to procedure.
- Any problems drawing from site.

RELATED PROCEDURES

None

PERIPHERAL CANNULA (SHORT CATHETER) PLACEMENT (LESS THAN 3 INCHES)

PURPOSE

To place a cannula, that provides access to the venous system for hydration, medication administration, restore fluid and electrolyte imbalance.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- IV cannula, smallest gauge and shortest length which will allow safe infusion of prescribed therapy
- IV injection cap or tubing with IV solution. Extension tubing as preferred or required
- Antiseptic swabs (alcohol, Betadine or chlorhexidine)
- Tape
- Tourniquet
- Disposable gloves
- Arm board if needed to maintain position
- Transparent dressing or 2 x 2 sterile gauze sponge and tape
- Sterile normal saline. 1-3 ml of 0.9% Sodium Chloride (USP) or heparin flush (10 units/ml)
- Heparin syringes and 25-gauge needle or needleless access device
- Sharps disposal container
- IV start Kit: (gloves, mask, gauze pads, alcohol pads, transparent semi permeable membrane dressing, injection cap, antiseptic swab stix, alcohol wipes, peripheral catheter, flush solution, syringes.)

PROCEDURE

1. Review physicians order for type and amount of IV fluid and rate of administration.
2. Check client's identity using two forms of identification.
3. Explain the procedure to the client/caregiver.
4. Assemble the equipment.
5. Wash hands. Follow standard procedures. Refer to Hand Washing procedure.
6. Don clean gloves. Eye protection or goggles are to be worn at the discretion of the Registered Nurse.

7. Position the client for comfort to access puncture site.
8. Using aseptic technique, clear IV line of air by priming with IV solution. If using a male adapter plug or extension tubing, fill with heparin. Check IV solution for clarity, color and expiration date.
9. Prepare heparin and saline lock for infusion.
10. Select appropriate venipuncture site. Choose a site below the client's elbow to increase comfort. Avoid cannulation over joints or previous IV sites as this predisposes to infiltration. (Cephalic, basilica, and medium cubital are preferred sites in adults.)
11. Apply tourniquet proximal to venipuncture site. Check for radial pulse. If radial pulse is absent, the tourniquet is too tight. Check refill capacity of the vein by running a finger along the vein. If refill is sluggish, the vein will be prone to collapse after catheter insertion. Another vein should be used. When vein identified release tourniquet to prepare site.
12. Cleanse selected site with approved solution (povidone-iodine or 70% alcohol), using friction in horizontal movements, then vertical followed with circular motion (middle
to outward). Allow to dry 2-3 minutes for providone-iodine (Betadine); 60 seconds
for alcohol.
13. Reapply tourniquet 4-5 inches above insertion site.
14. Stabilize the vein by holding skin taught with thumb below site.
15. Puncture the vein with bevel of needle up and having needle at a 30- to 45-degree angle above the extremity. Use either the direct or indirect approach. Direct: Enter skin directly above the vein. Indirect: Enter skin beside the vein and direct catheter to enter the side of the vein. Observe for blood flow.
16. If using an over the needle catheter, inset with bevel up at a 10- to 30-degree angle slightly distal to actual site of venipuncture.
17. Observe for blood return. Once access is achieved, lower the needle until it is almost flush with the skin. Release tourniquet and advance catheter until hub rests at the venipuncture site.
18. Attach the intermittent injection cap securely to the catheter hub.
19. Test cannula placement by either slowly injecting some of the sterile saline or slowly starting IV infusion.
20. Secure cannula with tape to prevent accidental dislodgment. Avoid taping directly over the catheter as this may impede blood flow.
21. Cleanse injection cap with alcohol swab.
22. Apply transparent dressing over cannula site with distal edge covering the cannula adapter to the injection cap. Label the insertion site with: catheter

gauge, date/time of insertion, and the initials of the person performing the procedure.

23. If solution is not to be administered following cannula insertion, inject 1 ml of 100u/cc heparin into the injection cap.
24. Dispose of used needles, syringes, and gloves as outlined in the Agency Waste Disposal Policy.
25. Wash hands. Refer to Hand Washing procedure.
26. **Site changes are done every 3-4 days. IF longer than 4 days there must be a physician order and increased monitoring of the site.**

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure. Performed, date and time.
- The size and type of cannula inserted.
- Location of the site.
- Type of infusion, insertion site by vessel, flow rate, and when infusion was begun.
- If no infusion started, any medications used to flush the line. The dose of heparin administered.
- The client's tolerance of the procedure.
- Name of person inserting catheter.
- Number of attempts required. No more than two attempts at initiating the IV access should be made by a single nurse.
- If electronic infusion device is used, document type and rate of infusion.

SPECIAL CONSIDERATIONS

If the cannula is to be used on an intermittent basis, it should be flushed with heparin or saline after each dose of medication or every 12 hours whichever is less.

CLIENT/CAREGIVER INSTRUCTIONS

Clients receiving home infusion therapy need to receive information that will help them protect the catheter and troubleshoot minor complications. This could include, but is not limited to:

- Movement restrictions.
- How to keep the site dry and what to do if it becomes wet.
- Instructions to call the Agency if redness, swelling, or pain occurs at the site.
- Frequency and technique for flushing the catheter.
- Specific administration instructions if client is to self-administer therapy.

RELATED PROCEDURES

None

PERIPHERAL INFUSION: SITE/CATHETER MANAGEMENT

PURPOSE

- To maintain integrity of cannula insertion site.
- To provide access to venous system.
- To prevent infection/infiltration and phlebitis at cannulated site.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice ace and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- IV site care kit (includes the following)
    - Betadine swabs
    - Alcohol swabs
    - Transparent dressing
    - Tape
    - Disposable gloves
    - 2 x 2 gauze (sterile)

PROCEDURE

1. Explain the procedure to the client. Position the client for comfort.
2. Assemble equipment.
3. Thoroughly wash hands. Refer to Hand Washing procedure.
4. Don clean gloves.
5. Hold needle or cannula with nondominant hand to prevent dislodgment. Gently remove tape and dressing.
6. Assess venipuncture site for signs of infection (redness and tenderness); infiltration (coolness, blanching, and edema); and phlebitis (redness, firmness, edema, and pain along path of vein).
7. If there are any signs of infection, infiltration, or phlebitis:
    a. Apply pressure with sterile 2 x 2 gauze pad and remove catheter.
    b. Maintain pressure to area until bleeding stops.
    c. Apply adhesive bandage.
8. If no complications exist, proceed with dressing change:

a. Hold needle or cannula at hub. Carefully clean around site with povodine swab or alcohol working in circular motion from site outward approximately 3-4 cm.

b. Allow area to dry.

c. Reapply transparent dressing and secure site.

9. Dressing changes to cannula site are performed whenever they become soiled, wet,
or loose.

10. IV solutions are changed every 24 hours: When changing the infusion container:

a. Reduce IV flow rate. Remove old spike from container, keeping end sterile and above the level of the client's heart.

b. Insert the new spike into the IV solution and prime the system

c. Maintaining sterile technique, disconnect old tubing from venipuncture device and carefully attach new, primed tubing.

d. Adjust flow rate.

11. IV catheter site rotation are changed every 3 –4 days. Sites must always be changed if there is redness/tenderness or if there are signs of infiltration.

12. Discard disposable items as outlined in the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Condition of venipuncture site.
- Date and time of the procedure.
- Type of solution and flow rate if hanging new IV solution.
- The client's tolerance of the procedure.

RELATED PROCEDURES

Venipuncture

CENTRAL VENOUS ACCESS DEVICES (CVAD) MANAGEMENT

Central Venous Access Devices are divided into three types: (1) tunneled, (2) percutaneous central venous catheters (CVCs) and (3) implanted infusion ports.

PURPOSE

- To provide for safe access for administration of IV fluids, drugs and/or blood products
- To provide access for blood sampling.
- To maintain patency of catheter.
- To prevent mixing of medications/solutions which are incompatible.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice ace and agency policy)
- Other (Identify): _____

PROCEDURE

- The following four procedures relate directly to Central Venous Access Devices Management:
    - Tunneled catheters all have a cuff that allows tissue growth at the exit site to anchor the catheter and keep bacteria out of the venous circulation. Common tunneled catheters for long term use include the Broviac, Hickman, and Groshong catheters. The Groshong catheter has a pressure sensitive valve in each lumen that keeps the lumen closed when not in use. This feature is also found in Groshong PICCS and Groshong VAPs.
    - Tunneled catheters can be single lumen, double lumen, or multi lumen and vary in size. The Broviac catheter is more appropriate for a client with small central veins such as a child.
    - Peripherally inserted central catheters (PICCs) provide long term access to the central veins and are widely used in home settings. Because the catheter is made of soft, physiologically compatible silicone or polyurethane, it can be left in place for up to 6 months.
    - Most often the PICC catheter is an extended peripheral catheter and is not placed centrally. Usually the catheter terminates in the axillary or midclavicular area of the subclavian vein. Catheters that are centrally placed end in the superior or inferior vena cava or the right atrium.
- PICC can be used to infuse TPN, chemotherapy, antibiotics, narcotics, analgesics and blood products. They are available in a variety of sizes with a single or double lumen.
    - Blood Sampling: Tunneled or subclavian catheters.
    - Blood Sampling: Groshong catheters.
    - Flushing Procedures: Tunneled or subclavian catheters.

    - Flushing Procedures: Groshong catheters.
- Sterile injection cap change.
- Central line dressing change.

STERILE INJECTION CAP CHANGE

PURPOSE

- To maintain a sterile closed system by assuring injection cap is clean and secure.
- Injection caps are short luer-lock devices similar to the heparin lock adapters, but unlike those adapters, these caps have a small amount of empty space and do not need to be pre-flushed before connecting the cap.
- Frequencies of cap changes vary according to policy and the frequency that the cap is used. Recommendation to change the cap at least weekly.
- When using needleless system with caps that must be removed a replacement cap is needed with each use of the lumen.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile injection cap
- Tape
- Hemostat or Kelly-Bulldog clamp, if needed
- Sterile 0.9% sodium chloride 9USP)
- Alcohol wipes
- Disposable sterile gloves
- Syringe and one-inch 22g needle or needleless access device

PROCEDURE

1. Explain the procedure to the client and position the client for comfort with access to central Venous Access Device.
2. Assemble the equipment.
3. Wash hands. Refer to Hand Washing procedure.
4. Remove tape from the connection site between injection cap and catheter. Do not cut tape with scissors as they may damage catheter.
5. Don clean gloves.
6. Have the client perform Valsalva maneuver. Disconnect the old cap and connect the new cap using sterile technique. If the client cannot perform Valsalva's maneuver, use a padded clamp to prevent air from entering the catheter. *(*See special instructions for Groshong*.)*
7. Release the clamp briefly to determine if the cap is on correctly and that the connection is not leaking. Re-clamp catheter if not currently being used.

8. Tape the connection making tabs on ends of tape. One-half inch tabs on end of tape make removal easier.
9. Dispose of supplies as outlined in the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Date and time of the procedure.
- Type and amount of flush solution.
- The client's tolerance of the procedure.
- Name and title of clinician.

RELATED PROCEDURES

None

FLUSHING CENTRAL VENOUS ACCESS DEVICES

PURPOSE

- To maintain patency of the catheter.
- To remove drug precipitate or blood from the catheter.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice ace and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable sterile gloves
- 100 u/ml heparinized saline solution
- Sterile normal saline
- Alcohol wipes
- Sharps container

SPECIAL CONSIDERATIONS

- Site will be inspected prior to flush. If there are any signs of inflammation or phlebitis, flush will not be done.
- Concentrations of heparinized solutions shall not alter the client's clotting factors.
- Volume of heparinized saline shall be equal to or greater than the volume capacity of cannula times two.
- Saline flush is used prior to and after administration of mediations/solutions that are incompatible.
- Positive pressure within lumen of catheter must be maintained to prevent reflux of blood into cannula lumen.
- Consideration shall be given to the syringe size used for flushing. The smaller the size, the greater the pressure generated.
- The flush is to be done after every dose of medication and periodically as specified by agency policy or physician orders. For catheters not in use for infusion therapy, frequencies may vary from every 24 hours to weekly.

PROCEDURE

1. Determine the frequency and type of flush and obtain physician orders.
2. Explain the procedure to the client. Position the client for comfort.
3. Assemble equipment, and wash hands. Refer to the Hand Washing procedure.
4. Don clean gloves.
5. Prepare saline and heparin injection solutions.

   a. Note: Recommended concentrations of heparinized flush solutions vary from 10 units of heparin/ml to 1000 units of heparin/ml although 100u/ml is used most often. The frequency and amount of flushing needed may also vary.
   b. Lumens that are not being used are usually flushed once a day with 3 ml of saline followed by 5 ml of 100u of heparin/ml.
   c. Each lumen must be flushed before and after each intermittent use, usually with 5 ml of sterile saline before the medication administration and another 5 ml of saline followed by 5 ml of heparin solution after the medication infusion.
6. Clamp catheter and cleanse injection port with alcohol solution and allow to dry. If using a needleless system, simply remove the cap – you would not need to wipe it with alcohol.
7. Open clamp.
8. Inject the recommended type and amount of flush solution.
9. Maintain positive pressure on syringe plunger as you withdraw needle to prevent a backflow of blood.
10. Dispose of needles/access devices in sharps container.
11. Remove gloves and wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure completed, name and title of clinician.
- Date and time of the procedure.
- Type and amount of flush solution.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

CENTRAL LINE DRESSING CHANGE

PURPOSE

- To inspect the catheter and insertion site and assure catheter integrity.
- To prevent external infection of the peripheral or central venous catheter.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Central line dressing change kit or sterile supplies:

- Alcohol swabs or swab sticks (do not use with polyurethane PICC line or Midline catheters due to potential for catheter damage)
- Povidone swab sticks or chlorhexidine-based antiseptic (0.5% or greater)
- (2) 2 in. x 2 in. gauze (optional)
- 10 x 12 transparent dressing
- pair sterile gloves and (1) pair clean gloves
- masks (client may wear mask)
- Sterile injection cap or extension set

SPECIAL CONSIDERATIONS

- Sterile dressings are changed within 24 hours after insertion. After the first 24 hours the frequency for changing transparent dressings is every seven (7) days and PRN (as needed) if dressing is loose, damp, or soiled.
- Gauze dressings are changed every 48 hours.
- Antimicrobial ointments are not routinely used unless specified in the physician's order.
- Transparent, semi-permeable dressing is routinely used.
- The Registered Nurse will determine if it is appropriate to teach the client to do his/her own dressing change. If the client is to do the dressing change, written and verbal instruction will be given to the client. The client's competency and comfort with the procedure will be evaluated.

PROCEDURE

1. Identify client and assess client record for any signs, symptoms of complications related to his/her vascular access device.
2. Question client about any concerns over their catheter or experience.
3. Explain the procedure to the client. Position the client for comfort.
4. Wash hands. Refer to the Hand Washing procedure.

5. Assemble equipment and prepare flush.
6. Open dressing change kit and put on mask.
7. Apply non sterile gloves and gently remove old dressing, being careful not to dislodge catheter. Discard old dressing in accordance with universal precautions. Avoid pulling on catheter or use of scissors or other sharp objects near the catheter.
8. Examine the catheter insertion site for signs of redness, swelling, inflammation, tenderness and drainage. During all dressing changes assess the external length of the catheter to determine if migration of the catheter has occurred.
9. Inspect the catheter and hub for any evidence of kinked or weakened areas, loss of integrity, or changes in the length of exposed tubing.
10. Wash hands and put on new pair of sterile gloves.
11. Using friction, clean catheter site with alcohol swab sticks starting from exit site and moving outward in circular motion to cover an area 10 cm in diameter. Do not return to the catheter exit site with the same swab stick. Repeat with remaining swab sticks.
12. Follow three times with Povidone (Betadine) or other antiseptic swab stick.
13. Let Betadine (Povodine-iodine) to air dry at least two minutes. Do not wipe off.
14. Change injection cap, extension set when dressing is changed (optional).
15. Redress the site with sterile transparent dressing. Position sterile dressing over the insertion site, catheter tubing and hub. Tape over the winged connector for added securement if desired.
16. Avoid sealing transparent dressing edges with tape.
17. Do not cover dressing with roller bandage.
18. Change dressing immediately if integrity is compromised or if there is excessive drainage or moisture.
19. Follow procedures for flushing line and cap change as needed.
20. Wash hands. Refer to the Hand Washing procedure.

***NOTE:** When a transparent dressing is applied over gauze, it is considered a gauze dressing in accordance with the Intravenous Nursing Society Standards and must be changed every 48 hours.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The appearance of the site.
- Length of catheter exposed and any indication of complications.
- Type of dressing applied.
- The date and time of dressing change.
- The client's tolerance of the procedure.

RELATED PROCEDURES

PICC Line Dressing Change

PERIPHERALLY INSERTED CENTRAL CATHETER (PICC) LINE MANAGEMENT

PURPOSE

- To provide safe access for administration of infusion therapy.
- To maintain patency of catheter.
- To prevent infection.
- To prevent mixing of medications and/or solutions which are incompatible.
- To provide access for blood sampling in certain circumstances.

APPLIES TO

- Registered Nurses who have demonstrated competency in the procedure
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

MEASUREMENT GUIDELINES FOR PICC LINE CATHETER PLACEMENT

To determine the length of catheter to be inserted measure with the client's arm at a 45- to 90-degree angle. Using a non-sterile tape measure, measure from the point of insertion directly over the course of the selected vein as follows:

Superior Vena Cava Placement:

Left Basilic Vein Insertion: Measure from the point of venipuncture, medial groove of the bicep along axilla, angle over to mid clavicle, lower border of clavicle to insertion of the internal jugular, angle to first intercostal space at the right border of the sternum, measure to the third intercostal space.

Right Basilic Vein Insertion: Measure from the point of venipuncture, medial groove of the bicep along axilla, angle over to mid clavicle, lower border of clavicle to insertion of the internal jugular, measure along the right border of the sternum to the third intercostal space.

Left Cephalic Vein Insertion: Measure from the point of venipuncture, lateral groove of bicep to the deltoid insertion, cross deltoid angling to mid clavicle, lower border of clavicle to insertion of the internal jugular, angle to first intercostal space at the right border of the sternum, measure to the third intercostal space.

Right Cephalic Vein Insertion: Measure from the point of venipuncture, lateral groove of the bicep to deltoid insertion, cross deltoid angling to mid clavicle, lower border of clavicle to insertion of internal jugular, measure along the right border of the sternum to the intercostal space.

Clinical Alert: The third intercostal space marks the junction of the superior vena cava and the right atrium. In the average-size adult, the superior vena cava is approximately 7 cm long. If the catheter tip extends into the right atrium, there is potential for perforation, arrhythmias, and

irritation of valves. Mid-Subclavian Placement: Follow the above measurement techniques to the mid clavicle and STOP.

***Note:** Measurement will be different for the basilica versus the cephalic. Usually, the cephalic is longer. A catheter inserted from the left arm will be slightly longer, especially superior vena cava tip placement, as it crosses over the chest into the superior vena cava.

RELATED PROCEDURES:

PICC Line Insertion, Complications of PICC Lines, PICC Line Dressing Change, Flushing PICC Lines, Blood Sampling: PICC Line, PICC Line Cannula Removal

PERIPHERALLY INSERTED CENTRAL CATHETER (PICC)

PURPOSE

- To insert catheter via peripheral vein with tip in the vena cava.
- Must have physician order and tip placement verified by x-ray.
- To place an extended dwell vascular access catheter either centrally, mid-arm, or midclavicular.
- To assure appropriate placement of the catheter and maintain aseptic technique.
- This procedure is most commonly done in an outpatient setting that has access to x-ray for placement verification.

APPLIES TO

- Registered Nurses who have had training and certification for line placement
- Other (Identify): _____

EQUIPMENT/ SUPPLIES

- Catheter of choice and introducing device.
- Luer lock extension set (use a longer extension set for clients who are self- infusing. Groshong PICC requires a macrobore extension)
- Clave connector
- Sterile gloves, eye protection
- Steri-strips
- 2 cc vial of 1% Xylocaine, if ordered for local anesthesia
- 1cc syringe and 25-gauge 5/8-inch needle for Xylocaine administration
- Antibacterial soap
- Sterile water or saline (pour bottle) for rinsing gloves if necessary
- Sterile catheter insertion tray including:
    - Alcohol swabs
    - Chlorhexidine or povidone-iodine swabs
    - Latex injection port with short extension tubing
    - Sterile measuring tape
    - Sterile gauze pads
    - Sterile drapes
    - Sterile forceps
    - Sterile scissors
    - Sterile transparent semipermeable dressing
    - Two 10 ml syringes

- Vial of sterile saline solution
- 3 ml vial of agency approved flush solution
- Linen saver pads
- Tourniquet
- Non sterile measuring tape
- Sterile 4x4 gauze pads
- Two pairs of sterile gloves
- Gown and face shield

SPECIAL CONSIDERATIONS

- Obtain written consent by the client or responsible party if required by Agency.
- Verify physician's orders which include:
  - Size of catheter preferred (gauge/French), number of lumens, and location of tip
  - Post insertion chest x-ray to verify position if using central placement
  - Local anesthesia orders if desired
  - Steri-strip for securing catheter
  - Whether line may be used for blood sampling (should not be done unless the PICC gauge is 3/8-inch or larger)
- Perform initial client assessment that includes:
  - Type of therapy and concentration of the drug, considering tip location.
  - Medication allergies, specifically Lidocaine, povidone-iodine, or other antiseptic solutions used for skin preparation.
  - Venous access of the antecubital space of both arms (Recommended veins are: basilica, medical cubital, and the cephalic vein). Criteria to be used in the selection of the vein are: size and condition of the vein, dominant versus non-dominant arm and activity level of the client.
- Condition of the skin to be covered by the dressing
  - Baseline vital signs and other pertinent clinical findings
  - Site restrictions, contraindications, and client's coagulation status.
  - Availability of x-ray (if line is to be centrally placed)
  - Appropriateness of the home environment for the procedure
- Perform measurements to determine the length of the catheter to be inserted.

PROCEDURE

1. Explain the procedure to the client and obtain signed informed consent.
2. Prepare work space, gather equipment, and wash hands. Refer to the Hand Washing procedure.
3. Place a tourniquet or blood pressure cuff near the axilla of the upper arm and select the most appropriate vein. If using a blood pressure cuff, inflate it to 10-20 mm Hg below the systolic sound. This technique allows for continuous arterial flow, more complete venous compression and greater venous distention.

4. Palpate and establish the location of the brachial artery to prevent inadvertent puncture of the artery.
5. Release the tourniquet or blood pressure cuff, leaving it in place beneath the arm.
6. Position the client in a Fowler's, semi-Fowler's, or supine position. Place the arm to be cannulated at a 45- to 90-degree angle to the body with a folded towel under the antecubital region to provide comfort and support the arm, easing insertion.
7. Wash the arm with antibacterial soap and water, rinse, and pat dry.
8. For placement in the subclavian vein, use the non-sterile measuring tape to measure the distance from the insertion site to the shoulder and from the shoulder to the
   sternal notch.
9. For placement in the superior vena cava, measure the distance from the insertion site to the shoulder and from the shoulder to the sternal notch. Then add 3 inches or 7.6cm.
10. Measure the mid-arm circumference to establish a baseline for the evaluation of suspected thrombosis.
11. Have the client lie supine with his arm at a 90-degree angle to his body. Place a linen saving pad under the arm. Don face mask, gown, gloves and protective eye equipment.
12. Open sterile catheter insertion tray, using the wrap as a sterile field. Add extension tubing, syringes, and needleless system injection port to sterile field.
13. Place sterile underpad under the client's arm, using one quarter of the pad.
14. Open the PICC catheter and introducer tray.
15. Don sterile gloves.
16. Prepare the equipment:
    a. Prepare syringes - one with 10cc sterile saline, and one with 3-5cc of heparin flush solution.
    b. Attach the Clave connector to the extension tubing and prime with sterile saline.
17. Vigorously cleanse the selected venipuncture site with an alcohol swab stick, starting from the site and extending outward in concentric circles from mid-forearm to mid-upper arm and side to side. Repeat with the remaining two swab sticks and
    allow drying.
18. Repeat cleansing procedure, using the chlorhexidine or providone-iodine swabsticks. Allow to dry for at least two minutes.
19. Examine the introducer for burrs. Thread the end of the catheter through the introducer to test clearance.

20. Measure the catheter to the desired length with a sterile tape measure. Subtract the predetermined length for insertion plus an additional 1-3 cm to be left outside the skin. If the remaining length is excessive, pull the guide wire back to avoid cutting it.
    Trim the catheter straight across with sterile scissors. The length after trimming must be documented.

Follow manufacturer's guidelines for trimming or cutting catheters!

21. Reinsert the guide wire so the guide wire tip is covered by approximately 0.5 to 1 cm of catheter.
22. Flush the catheter with sterile saline and examine for defects. Leave the syringe in place to allow for periodic flushing of the catheter while threading.
23. Remove gloves and apply tourniquet to upper arm, using care not to contaminate the sterile field.
24. Don sterile gown and second pair of sterile gloves.
25. Have client raise arm and place a sterile non-fenestrated drape under the arm to create a large sterile work area. Then, place a sterile fenestrated drape over the insertion site. Enlarge sterile area with additional drapes, if needed.
26. Transfer the catheter with attached syringe to the sterile field adjacent to insertion site. Cover with sterile dressings to prevent uncoiling.
27. Stabilize the vein by stretching the skin and holding it taut. Insert the catheter introducer at a 10-degree angle, directly into the vein. Obtain blood return and gently advance the plastic inducer sheath until you are sure the tip is well within the vein.
28. Carefully withdraw the needle while holding the introducer still. To minimize blood loss, try applying finger pressure on the vein just beyond the distal end of the introducer sheath.
29. Using sterile forceps insert the catheter into the introducer sheath and advance it into the vein. Remove the tourniquet using a sterile gauze pad.
30. When you have advanced the catheter to the shoulder, ask the client to turn his head toward the affected arm and place his chin on his chest. (This will occlude the jugular vein and ease the catheter's advancement to the subclavian vein.)
31. Advance the catheter until about 4 inches (10 cm) remain. Then slide the introducer sheath down the catheter and away from the introducer site.
32. Grasp the blue tabs of the introducer sheath and flex them toward its distal end to split the sheath. Pull the blue tabs apart and away from the catheter until the sheath is split and can be removed and discarded.
33. Continue to advance the catheter until about two inches (5 cm) remain externally. Flush with sterile saline.

36. With the arm below heart level, remove the syringe. Connect the capped extension set to the hub of the catheter.
37. Secure the catheter by the appropriate suture technique or anchor the hub of the catheter to the skin with steri-strips. *Do not tape catheter straight down; use "S" clave.*
38. Apply a sterile 2" x 2" gauze pad directly over the site and a pressure dressing over that. Leave this dressing in place for 24 hours.
39. Connect the extension tubing with attached injection port. Attach the heparin syringe and check for blood return.
40. Dispose of all equipment and supplies as outlined in the Agency Waste Disposal policy.
41. Perform portable chest x-ray if ordered and indicated by the length of the catheter.
42. After the first 24 hours, remove the pressure dressing and gauze pad. Replace with a transparent dressing using sterile technique.

DOCUMENTATION GUIDELINES

Document in the client record:

- Date, place, and time of insertion.
- Type, gauge, and length of catheter inserted, length of catheter remaining outside the skin, and total catheter length.
- Vein: specific site.
- Suture, if applicable.
- Complications during insertion.
- Observation of blood return.
- Where and when chest x-ray was done, with results.
- Circumference of upper arm.
- Client tolerance of procedure.
- Follow-up plan, including site-care specifics.

CLIENT/CAREGIVER INSTRUCTIONS

1. Client/caregiver instructions: individuals who have had a PICC line placed need to receive information that will help them protect the catheter and troubleshoot minor complications. These would include, but are not limited to:
   a) Acceptable activity limits.
   b) Risks and benefits of catheter placement.
   c) Description of the catheter insertion.
   d) Potential complications and when and how to report concerns.
   e) Steps to take if line becomes disconnected or catheter is dislodged.
   f) His/her responsibility to notify Agency for any of the following:
      - Excessive bleeding at the site.

- Pain distal to the insertion site.
- Signs and symptoms of infection.
- If line becomes disconnected or catheter is dislodged.
- Steri-strips or sutures becoming loose.
- Site care, flushing, and dressing care.

NURSING CONSIDERATIONS/ INTERVENTIONS

- Do not attempt to repair defective cannulation device.
- Culture access site, access device or infusate if intravenous related infection is suspected.
- Flush access device with saline and or heparin to maintain patency.
- Replace occluded access device rather than instilling thrombolytic agent.
- Document all interventions in clinical record.

RELATED PROCEDURES

Peripheral Cannula Placement

RESPONDING TO COMPLICATIONS OF PICC LINES

PURPOSE

- To identify possible complications.
- To assure that the line will be maintained safely.
- To provide for client/caregiver education.

APPLIES TO

- Registered Nurses who have demonstrated competency.
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

SPECIAL CONSIDERATIONS

Bleeding: Bleeding is frequently associated with any non-tunneled catheter insertion. More frequent dressing changes and/or a mild pressure dressing may be required. Excessive bleeding or bleeding that persists for more than 24 hours is not normal. Excessive bleeding may be caused by coagulation disorders, vigorous physical activity, or a traumatic insertion procedure.

Response: Develop a plan with the physician for the management of excessive bleeding.

Phlebitis: Sterile Mechanical Phlebitis is the most common complication seen with the PICC line. It is not an infectious process; it is the body's response to a foreign material in the blood vessel. This phlebitis is predictable in that:

- It usually occurs in the first 48 to 72 hours after insertion.
- It occurs more often in women than in men.
- It occurs more often on left-sided insertions.
- It occurs more often when large-gauge catheters are used.

Phlebitis should be reported using this scale:

1+ pain at the site, erythema, and/or edema; no streak; no palpable cord

2+ pain at the site, erythema, and/or edema; streak formation; no palpable cord

3+ pain at the site, erythema, and/or edema; streak formation; palpable cord.

Response: Conservative measures to be taken for a 1+ or 2+ phlebitis:

- Warm, moist compresses applied to the upper arm between the insertion site and shoulder for 20 minutes, 4 times a day.
- Elevation of the extremity.
- Mild exercise.

If phlebitis does not resolve in 24-48 hours, if it progresses to a grade 3+, or if the client experiences severe pain or discomfort, the physician must be notified. Removal of the catheter is indicated.

Cellulitis: This infection may exhibit itself as pain, tenderness, and redness at the catheter exit site. Cellulitis does not follow the course of the vein. It tends to spread in a circular pattern into the surrounding subcutaneous tissue.

Cellulitis is most often caused by Staph epidermis or Staph aureus. Contamination at the site is the most common route of infection.

Response: Oral antibiotics are usually quite effective and may not require removal of the catheter.

Pain During Infusion: If pain is present only during the infusion, it may be caused by the chemical properties of the solution or medication being infused. Infusions with high osmolality or low PH may cause chemical irritation, vasospasms, and phlebitis. The rate and frequency of administration are found to be factors in chemical phlebitis caused by antibiotics.

Response: Slowing the administration rate will often help. Warm compresses applied during the infusion may decrease pain by increasing the hemodilution around the catheter.

Drainage from Catheter Exit Site: Any fluid from the site should be cultured to rule out catheter sepsis or exit-site infection. Chemical phlebitis downstream from the catheter tip could cause a narrowing of the lumen of the vein. A rapid infusion could cause increased pressure in the venous system and lead to reflux of the infusion solution at the exit site.

Response: Action is determined by identifying the type of drainage. If a leak is determined in the external portion of the catheter, a catheter repair is indicated.

Catheter Sepsis: While infection rates with PICC lines have been low compared to other central lines, the potential for catheter-related sepsis is present with any type of vascular access. Documented catheter sepsis requires:

- A client who is exhibiting signs of sepsis.
- A specific organism cultured from the blood.
- A specific organism cultured from the catheter tip.
- No other source for that organism.
- Resolution of the septic picture when the catheter is removed.

Response: This presents an area of much controversy. Some say many cases of sepsis can be resolved with the catheter in place; while others say that the catheter must be removed, the infection resolved and then another line can be placed. Others maintain the decision to remove the catheter depends on the causative organism, type of catheter, and condition of the patient. Consult the client's physician for specific orders.

Air Embolism: The potential for air embolism exists whenever a venipuncture is performed. If the pressure of the air is greater than that of the column of blood, air will enter the system when it is open. Keeping the catheter exit site below the level of the heart will help to maintain adequate pressure within the system.

Early signs of air embolism include:

- Chest pain.
- Dyspnea and hypoxia

- Apnea
- Tachycardia
- Hypotension
- Nausea
- Substernal pain
- Confusion

Response: Immediately position the client on his/her left side with feet elevated. Activate the emergency response system. Monitor vital signs and start peripheral IV if possible.

Catheter Tip Migration: It is possible for any type of central venous catheter to migrate to another location while in the body. Certain types of clients are more susceptible to catheter tip migration.

- Oncology clients who experience frequent nausea and vomiting are likely to experience migration due to the physical position often assumed during vomiting and the change in the interthoracic pressure that occurs.
- Respiratory clients who have bouts of severe coughing.
- Clients who are very active.
- Symptoms may include referred pain in the jaw, ear, or teeth. Distended veins on the malpositioned side may be evident. Flushing or a sense of fullness in the head may occur during rapid infusions.

Response: Measure and document the external length of the catheter with each dressing change. This will assist in early detection. Periodic catheter tip verification by x-ray study should be performed on all long-term, centrally placed catheters.

RELATED PROCEDURES

Central Line Management

PICC LINE DRESSING CHANGE

PURPOSE

- To prevent infection.
- To stabilize catheter position.
- To monitor site and assure catheter integrity.

APPLIES TO

- Registered Nurses who have demonstrated competency.
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 4 alcohol swabsticks
- 3 chlorhexidine or povidone-iodine swabsticks
- Skin prep packets
- Sterile 2 x 2 gauze dressings
- Transparent dressing
- 1 pair sterile gloves
- 1 pair non-sterile gloves
- Masks (per agency protocol)
- Heparin flush 100 units per cc (2cc)

SPECIAL CONSIDERATIONS

- PICC line dressing changes will use sterile technique.
- The initial dressing (after first 24 hours) should have a gauze dressing just above the insertion site to wick away any drainage.
- The entire hub and extension set should be covered by the dressing.
- If no drainage after the first 24 hours, a transparent, permeable membrane dressing will be used to prevent migration of the catheter from the exit site.
- Dressings must be changed more frequently for clients who are very active or perspire profusely.
- Dressing changes will be done weekly or per agency protocol and as needed if dressing becomes loose or soiled.

PROCEDURE

1. Obtain physician orders.
2. Explain the procedure to the client.
3. Wash hands. Refer to Hand Washing Procedure.
4. Assemble equipment.

5. Don mask per agency protocol.
6. Don non-sterile gloves.
7. Loosen edges of transparent dressing and carefully remove. Note drainage and appearance of the catheter.
8. Inspect catheter insertion site for signs of redness, swelling, inflammation, tenderness, or exudate.
9. Inspect catheter and hub for any kinked or weakened areas. Note length of catheter exposed.
10. Discard old dressing; remove non-sterile gloves and dispose of as outlined in the Agency Waste Disposal policy.
11. Don sterile gloves.
12. Clean exit site with 3 alcohol swab sticks, starting at exit site and moving outward in a circular fashion, maintaining strict aseptic technique. Cleanse a 5-10 cm area.
13. Repeat procedure, using chlorhexidine or Betadine swab sticks.
14. Let Betadine solution dry. Do not wipe off.
15. Cover site with sterile transparent dressing, making sure to cover the extension set.
16. If drainage is present, cover site with a sterile gauze dressing under the transparent dressing for 24 hours. Routine use of gauze on PICC may cause migration of the catheter. Therefore, it will not routinely be used.
17. If any tubing extends from where the transparent dressing ends, tape the tubing to anchor the catheter.
18. Use heparin flush to heparinize the new clave connector.
19. Cleanse end of the extension set and old connector with alcohol.
20. Close clamp on the extension set.
21. Remove old clave connector; cleanse end of extension set with alcohol swab for 30 seconds.
22. Replace clave connector to end of the extension tubing and secure connection.
23. Flush the catheter vigorously with 2 cc of heparin solution 100 units per cc.
24. Dispose of soiled equipment and supplies as outlined in the Agency Waste Disposal policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Appearance of the site.
- Patency of line and flush solutions used.
- Date and time of the dressing change, and type of dressing applied.

- Length of catheter visible at exit site.
- Any physician notification.
- Plan for next dressing change.
- Any client/caregiver education and their response.

RELATED PROCEDURES

Flushing Central Venous Access Devices

FLUSHING PICC LINES

PURPOSE

- To maintain catheter patency.
- To remove drug precipitate or blood from the catheter.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Disposable gloves
- 3.0 sterile saline solution
- 100 units/cc heparin solution
- Alcohol swabs

SPECIAL CONSIDERATIONS

- Saline flushes will be used between doses of medications or fluids that are incompatible.
- Final heparinization of the PICC line is done with heparin 100 units per cc. Flushes will be done after each drug dose or once per day, whichever is less.
- Flushing is done vigorously. It should be done with syringes no smaller than 10cc.

PROCEDURE

1. Obtain physician orders and determine the frequency of flush needed.
2. Wash hands. Refer to Hand Washing Procedure.
3. Don gloves.
4. Assemble equipment.
5. Explain the procedure to the client and position for comfort.
6. Prepare saline and/or heparin.
7. Cleanse the clave connector with alcohol for 30 seconds.
8. Insert heparin or saline using needle or needleless access into the connector.
9. Open clamp.
10. Vigorously inject saline and/or 2cc heparin.
11. At the end of the flush, clamp the catheter.
12. Remove gloves and dispose of equipment/supplies as outlined in the Agency Waste Disposal policy.

13. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure performed.
- Dose of heparin and/or saline used.
- Any significant findings related to the procedure.
- Report significant findings to the physician.

RELATED PROCEDURES

Flushing Central Access Devices

PICC LINE CANNULA REMOVAL

PURPOSE

To safely remove cannula at termination of treatment or when indicated.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- One pair non-sterile gloves
- Alcohol swabs
- Chlorhexidine swabs
- Sterile 2 x 2 transparent dressing

SPECIAL CONSIDERATIONS

- On occasion, the catheter may be difficult to remove. Apply a warm compress above the insertion site to facilitate vein dilation. If difficulty is still encountered, place gentle traction on catheter, tape in place on the client's arm, and attempt again in 20-30 minutes. If still unsuccessful, wait several hours and then continue to gently withdraw catheter.
- If catheter breaks, immediately apply tourniquet to upper arm to avoid catheter embolism. Notify the physician.
- Keep the exit site below the heart and be aware of signs of air embolism. If signs of air embolism are present, immediately position client on left side with feet elevated. Signs of air embolism: chest pain, dyspnea, hypoxia, apnea, tachycardia, hypotension, nausea, substernal pain, and confusion.

PROCEDURE

1. Obtain physician order to remove catheter. Explain the procedure to the client.
2. Wash hands. Refer to Hand Washing Procedure.
3. Gather equipment and supplies.
4. Apply warm compress directly above the insertion site for 10 - 15 minutes prior to removal. This helps to distend the vein.
5. Position client with arm abducted, and assist him/her to lie flat.
6. Apply gloves and remove dressing.
7. Cleanse the skin with alcohol and then with Povidone-iodine (Betadine).
8. Pull catheter 1-2 inches at a time until entire length is out.

9. Apply pressure to the exit site with a sterile dressing. Hold pressure for 5 minutes.
10. Fold a 2 x 2 dressing and tape in place. Apply the transparent dressing over the site.
11. Assess the catheter integrity. Report any defect to the manufacturer.
12. Instruct the client to report any signs of bleeding, swelling, or pain. Instruct the client to leave the gauze dressing in place for 24 hours.
13. Dispose of used equipment and supplies according to the Agency Waste Disposal policy.
14. Wash hands. Refer to the Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Condition of the site.
- Client tolerance of the procedure.
- Condition of the catheter and appearance of the tip.
- Date and time sutures removed, if applicable.
- Type of dressing applied.
- Any complications or problems encountered in removing the catheter.
- Physician notification.
- Client/caregiver instructions given.

RELATED PROCEDURES

None

MANAGEMENT OF IMPLANTABLE VASCULAR ACCESS DEVICES (IVAD)

PURPOSE

- To safely administer IV fluids/parenteral therapies.
- To obtain blood sampling.
- To maintain patency of IVAD.
- To prevent infection.
- To provide for pain management, if indicated.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Right-angle non-coring needle with integrated six-inch extension tubing with clamp (20g)
- Central line dressing change kit
- One pair of sterile gloves (in addition to those in the kit)
- 30 cc 0.9% sodium chloride sterile saline
- One 5 cc syringe
- One 20g needle or needleless access
- Heparin flush, if applicable (5cc of 100u/cc)
- Blood specimen tubes and lab slips, if applicable
- Sharps container

SPECIAL CONSIDERATIONS

- Basic port design consists of portal body, central septum, a reservoir, and a catheter.
- Implanted ports can be placed in the following locations:
    - Upper chest – right or left side venous access
    - Antecubital area of arm – venous access
    - Spine area – epidural access
    - Abdominal area – arterial or peritoneal access
    - Biceps area – venous access.
- Sterile needle and tubing for continuous infusion is changed every five to seven days
- A dressing is not required when port is not being accessed.

PROCEDURE

1. Obtain the physician's order and explain the procedure to the client/caregiver.
2. Position the client for comfort and assemble the equipment.
3. Wash hands. Refer to Hand Washing procedure.
4. Prepare 5cc syringe of sterile saline, open right-angle needle package, and prepare heparin flush, medication, or infusion.
5. Using aseptic technique, prime right-angle needle and tubing with 1-2 ml saline. Leave syringe attached.
6. Close clamp on extension tubing.
7. Open sterile dressing kit. Put on mask.
8. Prepare sterile field and open sterile supplies. Don sterile gloves.
9. Using alcohol swab sticks, clean skin overlying port septum, moving outward in circular motion to diameter of 6 cm three times.
10. Prepare skin in the same fashion using antiseptic/antimicrobial swabs three times
and let dry.
11. Palpate port septum observing strict aseptic technique.
12. Insert right-angle needle through skin and push down firmly against needle stop.
13. Check for placement by aspirating blood. If good blood returns, flush the tubing with remaining 4 ml sterile saline and clamp tubing.
14. If continuous infusion is not indicated, inject 5cc heparin (100u/1cc) into the port and clamp tubing. Maintain positive pressure on syringe plunger as you remove syringe to prevent the backflow of blood.
15. If port is to remain accessed, place sterile gauze under the device wing to prevent rocking motion of needle within the septum.
16. Anchor the non-coring needle to skin using sterile tape. Cover needle with gauze and sterile occlusive transparent dressing. Connect IV infusion tubing to extension tubing, open clamp, and regulate IV infusion as ordered. Maintain as a closed system. Change the needle every 7 days.
17. Dispose of all supplies as outlined in the Agency Waste Disposal Policy.
18. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Specific procedures performed.

- The condition of the port site and patency of access device.
- Date and time of the procedure.
- Type and amount of flush solution used.
- The client's tolerance of the procedure.

RELATED PROCEDURES

Central Venous Catheter Management

ACCESSING AND FILLING IMPLANTED PUMPS

Implanted pumps are placed by the physician in a subcutaneous pocket. The silicone catheter is tunneled to the spine, vein or artery. The pump allows continuous or bolus delivery of chemotherapy agents, pain medications and other agents to specific body sites such as the hepatic artery. The pump infuses at a preset rate by utilizing gas compression. Placement and removal of an implanted pump is a medical act. A knowledgeable and trained registered nurse may access, use, and refill the pumps.

Refills are usually done in the physician office but nurses who are trained and competent in the procedure may fill the pump.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Refill kit from manufacturer:
  - Pump template
  - Fenestrated Drape
  - 50 ml syringe
  - Fill set with removable stopcock
  - Non-coring straight needles
  - 5 ml syringes
  - Medication syringes
  - Sterile water for injection, preservative-free
- Sterile gloves
- Mask
- Gauze pads
- Alcohol pads
- Alcohol and antiseptic/antimicrobial skin cleanser swabsticks

PROCEDURE

1. Determine the type of pump and review manufacturer's guidelines.
2. Verify physician orders and obtain client consent.
3. Use aseptic technique and observe standard precautions throughout the procedure.
4. Before filling:
   a. Obtain refill kit from the manufacturer.
   b. If the medication is refrigerated, warm to room temperature.

c. Locate the septum of the pump.

d. Palpate the outer perimeter of the pump.

e. Assess skin over and around the pump.

f. Report and document signs of complications such as redness, swelling or induration.

g. Disinfect skin with disinfectant solution or 70% isopropyl alcohol.

h. Prepare the fill set according to manufacturer's instructions.

i. Place a sterile drape with opening over the disinfected area and locate the center of the inlet septum, and palpate from the outer edges toward the center.

- Inlet is indented area approximately .25 inches in diameter.
- Avoid following previous needle tracks as subcutaneous tissue may shift and change the location of the inlet.

5. Filling the pump:

a. Insert needle at perpendicular angle and push needle through skin and the self-sealing inlet.

b. Upon insertion, you should feel the needle enter the inlet and contact needle stop.

c. If the needle comes in contact with the body of the pump, withdraw needle, replace needle and try again.

d. Use stopcock on the fill set, hold 50cc syringe barrel below the level of the pump and allow the residual solution to flow out of the chamber.

e. Note the amount of the fluid returned and add an extra milliliter to allow for solution in the tubing.

f. Disconnect the syringe with residual solution and leave the fill set in place.

g. Close stopcock and remove the syringe barrel.

h. Attach a 5 ml syringe filled with sterile water.

i. Open stopcock and inject sterile water, close clamp and remove syringe.

j. Attach a 50 ml syringe barrel and open the stopcock.

k. Hold the syringe below the level of the pump; 5 ml should be returned.

l. If fluid is not returned, re-access the pump.

***Note:** Do not aspirate fluid from pump as this can cause blood backflow that could form a clot and occlude the pump cannula.

m. Remove air from the syringe.

n. Attach the medication syringe.

o. Use two hands to stabilize the syringe and plunger.

p. Inject 5 ml of medication.

q. Release pressure on the plunger to allow a small amount of medication to return to the syringe - this confirms needle placement.

r. Continue to inject the medication, stopping at least every 5ml to check for return flow until all medication is injected.

s. Close the clamp when medication has been injected.

t. Stabilize the pump with one hand and remove the needle with the other hand.

u. Apply pressure over puncture site with gauze for several minutes until bleeding stops.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Access procedure.
- Amount of residual medication removed from pump.
- Amount of medication infused into pump.
- Daily volume of medication to be administered.
- To calculate the daily volume to be delivered, subtract volume of medication returned to pump from the volume of the pump, divide this volume by the number of days since pump was last filled:
    - Example:
        - Volume of pump - 50 ml.
        - Volume returned - 11 ml.
        - Total delivered- 39 ml.
        - Number of days - 9 days.
        - Daily volume - 4.33 ml/day.
- Record amount and strength of the medication injected into the side port.

BOLUS INJECTION-SIDE PORT

1. Obtain refill kit from manufacturer.
2. Warm refrigerated medication to room temperature.
3. Locate the side port of the pump.
    a. Palpate outer perimeter of pump and feel protruding area on lateral surface of the pump.
    b. Assess skin over and around pump and report any signs of complications.

4. Disinfect skin.
5. Prepare fill set per guidelines.
6. Apply sterile drape over area with pump site exposed.
7. Insert needle into the side port septum at perpendicular angle.
8. Using stopcock:
    a. Inject 5 ml of preservative free sterile water to flush pump catheter and confirm placement.
    b. Close stopcock and discard syringe.
    c. Attach medication syringe and open stopcock.
    d. Slowly inject medication. Rate is limited to 10ml/minute to avoid over pressure condition occurring in the side port.
    e. After the medication is injected, close stopcock and disconnect the drug syringe from the fill set to avoid spilling.
    f. Attach another 5 ml syringe filled with preservative free sterile water, open stopcock and flush catheter, close stopcock.
    g. Stabilize the pump with one hand while removing the needle with the other hand.
    h. Apply pressure with gauze dressing for several minutes.

RELATED PROCEDURES

None

ARTERIOVENOUS FISTULAS OR SHUNTS

Placement of an arteriovenous (AV) fistula or shunt is a surgical procedure and a medical act. A registered nurse, appropriately skilled and trained, may administer prescribed therapies with this vascular access route. **Only an AV Fistula or shunt designated for the administration of intravenous fluids shall be used.**

APPLIES TO

- Registered Nurses who have demonstrated competency.
- Licensed Practical/Vocational Nurses (per state nurse practice act, agency policy and with demonstrated competency)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile gloves
- Mask
- Gauze pads
- Alcohol and approved antiseptic antimicrobial skin cleanser swabsticks
- Alcohol pads

PROCEDURE

1. Obtain and review physician orders.
2. Inform client and obtain consent.
3. Assess integrity of the shunt by palpation or auscultation.
    a. Place stethoscope over the shunt site and listen for audible bruit.
    b. Place fingers over the access site and feel for palpable thrill.
4. Wash hands Refer to the Hand Washing procedure. Assemble equipment.
5. Use sterile technique and observe standard precautions throughout the procedure.
6. Wash site with anti-infective soap and water.
7. Disinfect the cannulation site.
8. Use local anesthetic at cannulation site (per client wishes and physician orders). **Do not apply tourniquet.**
9. Insert appropriate size cannula into the AV fistula or shunt.
10. Use caution when withdrawing the stylet from the cannula inserted into the fistula, apply pressure at the site to avoid bleeding.
11. Dress site with sterile gauze and cover with sterile transparent dressing Secure connections.
12. Use a positive pressure electronic infusion control device (EID) Initiate therapy.

PRECAUTIONS

- Obtain blood specimens from the venous side, if ordered.
- Do not perform blood pressures and non-treatment related venipunctures on the affected extremity.
- Culture access site, access device or solution if intravenous related infection is suspected.
- Flush with saline and/or heparin to maintain patency.

RELATED PROCEDURES

None

MANAGEMENT OF EPIDURAL CATHETERS

Epidural access is the placement of a percutaneous epidural catheter, a fully implanted epidural port system, or a fully implanted drug infusion pump into the epidural space. The placement and removal of an epidural catheter pump, or port is a medical act. A trained and competent registered nurse may perform site access, routine site care, and maintenance of this device.

PURPOSE

- To safely perform site care.
- To maintain patency of catheter.
- To prevent infection.

APPLIES TO

- Registered Nurses who are trained and have demonstrated competency.
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Two sterile 2 x 2 gauze sponges
- Transparent dressing 4 x 4
- Antiseptic/antimicrobial skin cleanser
- Gloves
- Warm water, basin, and clean cloth
- 1-inch tape

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Don clean gloves.
3. Position the client for comfort with access to epidural catheter site.
4. Carefully remove old dressing. Never use scissors.
5. Cleanse area with warm water. Do not use soap or alcohol because of the potential for migration into epidural space and possible nerve damage.
6. Using antiseptic, paint a circle around exit site extending three to four inches outward. Continue with second and third swab stick, always starting at site moving outward in circular motion.
7. Allow cleanser to dry.
8. Cover site with sterile 2 x 2. A sterile 2 x 2 may be placed under catheter if indicated.
9. Loop the catheter around in a circle, and then cover with transparent dressing. Securely tape extra catheter length to skin.

10. Remove gloves. Dispose of supplies as outlined in the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Date and time of the procedure.
- Site care, noting any abnormalities.
- Type and amount of flush solution.
- The client's tolerance of the procedure.

SPECIAL CONSIDERATIONS

- Epidural catheters are inserted by physicians.
- Length of therapy determines the type of epidural catheter used.
- Continuous epidural infusions must be administered using an electronic infusion device.
- Only preservative-free medications and flush solutions may be used! Preservatives are toxic to the neural tissue.
- Dressing changes are recommended twice a week for two weeks, then once a week. Change dressing more frequently if dressing becomes soiled or loose.

***Note:** Individual state laws regulate personnel qualified to administer epidural analgesics.

RELATED PROCEDURES

Management of Epidural Implanted Ports

ACCESSING AND MANAGING EPIDURAL IMPLANTED PORTS

PURPOSE

- To maintain patency of port.
- To prevent infection to refill or administer medications via the epidural pump.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act, agency policy and demonstrated competency)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 20g-1" Huber point needle with 6" extension set, OR
- Gripper needle with pre-attached tubing (20g x 3/4")
- Antiseptic/antimicrobial skin cleanser
- Transparent dressing (3 x 4")
- Sterile gauze
- Sterile gloves
- Medication to be administered via mechanical pump
- 5cc syringe
- Tape

PROCEDURE

1. Explain the procedure to the client. Position the client comfortably with access to the port.
2. Wash hands. Refer to Hand Washing procedure.
3. Assemble equipment on clean surface and prepare:
    a. Medication and pump for infusion.
    b. 5cc syringe.
    c. Prime needle and tubing using aseptic technique.
    d. Open pack of skin cleanser.
4. Using skin cleanser, clean skin overlying port septum moving in concentric circles from inside out three times. Cleaned area should be approximately 10 cm in size.
5. Allow skin cleanser to dry.
6. Apply sterile gloves.

7. Palpate port system utilizing aseptic technique.
8. Insert Huber needle through skin and push down firmly until it penetrates silicone septum and rests firmly against needle stop.
9. Using 5cc syringe, aspirate. If no spinal fluid present, clamp extension tubing.
10. Secure Huber needle with transparent dressing and anchor extra tubing to skin with tape. If foam-padded gripper needle is not used, support needles with sterile gauze under needle, and tape in place before covering with transparent membrane.
11. Connect infusion and regulate according to physician's orders and open clamp.
12. Dispose of used equipment and supplies according to the Agency Waste Disposal Policy.
13. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure.
- Date and time of the procedure.
- The condition of the port site.
- Patency.
- The medication and infusion rate.
- Type and amount of flush solution.
- The client's tolerance of the procedure.

Report any site abnormalities or patency problems to the physician.

SPECIAL CONSIDERATIONS

Do not use alcohol for site prep or cleaning connectors because of potential for migration of alcohol to epidural space.

Physician's orders are required for frequency of access.

Site care to be done at least every seven days or more frequently per physicians orders.

Mark the catheter/port/pump, administration tubing, and infusion pumps clearly to prevent accidental injections of medications through the epidural catheter/port/pump.

Follow manufacturer's guidelines for access, care and maintenance of epidural devices.

Observe exit site for redness, cerebrospinal fluid drainage, swelling or pain.

Do not use alcohol or cleansing agents containing acetone on the site or to disinfect ports.

When administering mediations or solutions into pumps use preservative free solutions along with a .22 micron filter, surfactant free. If blood or cerebrospinal fluid Is aspirated, do not use the device and notify the physician immediately.

If catheter is occluded or damaged, notify the physician immediately.

After accessing the port, aspiration is imperative to ascertain absence of spinal fluid before administration.

Semi-permeable dressings are to be used to cover site unless there are specific physician orders to use different procedure.

RELATED PROCEDURES

Management of Epidural Catheters

PERITONEAL DIALYSIS

There are three types of peritoneal dialysis used in the home setting. They are intermittent (IPD), continuous cycle (CCPD) and continuous ambulatory (CAPD). All can be performed by a trained client or caregiver. IPD uses an automatic cycling unit three times a week for 8-19 hours. CAPD is performed daily. The client does three to four exchanges during the day and leaves the final exchange in the dwell stage overnight. CCPD combines both methods of dialyzing. The automatic cycling unit does three exchanges during the night and leaves the final exchange in the dwell stage through the day.

A peritoneal catheter or port is placed to provide access to the peritoneal cavity for performing dialysis or instillation of medication. The placement and removal of a peritoneal dialysis catheter or port is a medical act. A registered nurse may perform site access, routine site care, and maintenance of the device.

Dialysate solution is available in three concentrations: a 4.25% dextrose, 2.5% dextrose, and 1.5% dextrose. The higher concentration solution removes the largest amount of fluid. Monitor carefully to prevent excess fluid loss.

PURPOSE

Safe and accurate therapy to remove metabolic waste, and maintain fluid and electrolyte balance via peritoneal catheter.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Dialysate solution as ordered by the physician (should appear clear and colorless)
- Medication additive if ordered
- Tubing set
- Syringes
- Clamps
- Sterile barrier
- Belted pouch
- Betadine solution ordered
- Alcohol wipe
- Non-sterile gloves.
- Occlusive dressing.
- Two (2) masks and other protective equipment as needed.
- IV pole.
- Y-connector, if indicated.

PROCEDURE

1. Obtain the physician's orders for dialysate solution, additives, dwell time, and number of exchanges.
2. Perform physical assessment to establish baseline information. Include vital signs, laboratory results, weight, abdominal girth, catheter site for signs of irritation, infection, inflammation and assess administration set up.
3. Explain the procedure to the client. Warm the solution, and connect to drainage system. Prime the tubing. Position the client for comfort in Fowler's or semi-Fowler's position with access to peritoneal catheter.
4. Wash hands. Refer to the Hand Washing procedure.
5. Don clean gloves and put on mask.
6. Open the transfers set and connect one end to the fill tubing and one end to the drainage tubing, keeping all clamps closed. Open the clamps and run solution for 5 seconds or as needed to prime tubing and remove air from the system.
7. Connect the primed transfer set to the client's access site. Open the drain tubing clamp and drain abdominal contents for approximately 20 minutes and clamp drain tubing (this empties the abdominal cavity of dialysate solution).
8. Empty and measure fluid in drainage bag.
9. Open clamp to the fill tubing and allow solution to infuse into abdomen. When fill is complete, clamp tubing. Allow fluid to remain in abdomen as ordered (dwell time).
10. Repeat procedure to drain, fill and dwell per orders. Close clamp to the transfer set.
11. Cap off catheter with sterile cap.
12. Inspect the catheter site. If dressing is reapplied, apply clear, transparent, occlusive dressing.
13. Remove gloves. Wash hands. Refer to the Hand Washing procedure. Dispose of contaminated supplies according to the Agency Waste Disposal Policy.
14. Check drainage bag for clarity of solution and presence of sediment, blood or clots. If drainage is poor, reposition the client.
15. If an automated cycling unit is used, connect per manufacturer's recommendations and follow the instructions for regulating the fill, dwell and drain times.
16. During and after dialysis, monitor the client and assess abdominal and respiratory status and response to treatment.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Assessment findings including weight, vital signs.
- Appearance of skin at the entrance site.
- Amount of dialysate infused.
- Amount and characteristics of returns.
- Client/caregiver ability and any interventions teaching required.
- Client caregiver response to teaching.
- Ongoing plan.

SPECIAL CONSIDERATIONS

- Dialysate that is cold can result in intolerance, cramps, and hypothermia.
- Plastic dialysate bags are permeable. Immersing them in warm water risks the introduction of bacteria/osmotic concentration alteration.
- The addition of heparin to dialysate may facilitate removal of fibrin clots which can impede drainage.
- Dialysate solutions are available in many different concentrations of dextrose. Clients must measure and record fluid loss, weight gain or loss daily and blood glucose testing as ordered. Addition of regular insulin to dialysate may assist in blood sugar control of the diabetic client. Dietary restrictions are less severe than for clients on hemodialysis, but dietary and fluid limits may be ordered. Sodium intake is limited in most cases.
- Cloudy dialysate is a hallmark sign of peritonitis. Educational materials should be provided in the client's language if possible. If not an interpreter will be needed to explain procedures to the client caregiver.

RELATED PROCEDURES

None

VENTRICULAR RESERVOIR

A ventricular reservoir is used to provide access directly into the cerebrospinal fluid (CSF) to measure pressure, obtain specimen, and instill medication without performing a spinal tap. A ventricular reservoir is implanted surgically in the right frontal region into the lateral ventricle, then sutured to the pericranium and covered with a skin flap.

The placement of a reservoir is a medical act. A trained and competent registered nurse may perform site access, routine site care of this device and administration of medications.

PURPOSE

- To instill medications into the cerebrospinal fluid.
- To obtain specimens of CSF.
- To provide a safe, infection free environment to complete the procedure.

APPLIES TO

- Registered Nurses who have been trained and demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile gauze sponges
- 23 gauge winged infusion set
- 10 ml syringes
- Disposal container
- Sterile gloves
- Drapes and mask
- Preservative free medications

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Use aseptic technique and observe standard precautions.
3. Put on mask and gloves.
4. Wash site with soap and water if necessary.
5. Remove hair from site, if necessary.
6. Apply local anesthetic, per orders.
7. Cleanse site with povidone-iodine solution.
8. Change gloves.
9. Prepare sterile field.

10. Attach syringe to a 23 gauge winged infusion set.
11. Palpate and stabilize reservoir port with non-dominant hand.
12. Insert needle obliquely into reservoir port.
13. Withdraw 3 ml of cerebrospinal fluid, remove syringe and set aside on sterile field.
14. Attach syringe with medication to needle and instill as ordered.
15. Observe client during the medication administration and immediately after for signs of increased intracranial pressure or adverse reactions:
    a. Nausea and vomiting.
    b. Headache.
    c. Dizziness.
    d. Specific signs/symptoms of drug reaction.
16. Detach medication syringe and attach syringe with CSF to needle.
17. Flush the reservoir with CSF.
18. Maintain positive pressure on the syringe and withdraw access needle from the reservoir.
19. Apply gentle pressure to site.

***Note:** Use only preservative free medication for this procedure. Have client remain flat without a pillow for 30 minutes after the procedure. Monitor vital signs and neuro signs.

RELATED PROCEDURES

None

PARENTERAL NUTRITION ADMINISTRATION

Parenteral nutrition may be administered via central venous access or peripheral venous access. If the final concentration of dextrose exceeds 10% and amino acid exceeds 5%, the solution will be administered via a central venous access. Parenteral nutrition may be administered continuously or cyclically for a specified period of time. Trained and competent nurses shall be knowledgeable of the types of nutrition, indications for use, appropriate dosage and diluents, administration, monitoring parameters, side effects, toxicities, incompatibilities, stability, storage requirements and potential complications.

PURPOSE

- To ensure the safe administration of Total Parenteral Nutrition (TPN) and intralipid (fat emulsion) therapy in a home setting.
- To provide nutritional support for those clients unable to eat or swallow appropriately.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Parenteral nutrition solution
- Lipid emulsion solution as ordered
- Sterile saline and 100u/cc heparin for irrigation and flush, as ordered and needed
- Administration sets with in-line filtration systems or an add-on filtering system
- Needleless cannula and adapter
- Blood tubes and lab requisitions for blood sampling, if needed
- Povidine wipes, alcohol wipes
- Disposable non-sterile gloves
- Sharps container
- Multivitamins or other additives in syringes with needles to add, if indicated
- Container with lid for specimen transport, if needed

SPECIAL CONSIDERATIONS

- TPN/lipids will be administered through central venous access using an electronic infusion device. Physician orders must include the parenteral nutrition formula, specifying the percent of dextrose, amino acids and the addition of lipids, additives and concentrations, total volume to be infused, rate of administration, frequency of infusion, and route of administration.
- Only Registered Nurses will administer TPN and instruct the client/caregiver in administration techniques.

- Adequate storage and refrigeration must be available.
- A Registered Nurse must be available 24 hours a day and be able to access pharmacist and physician to report concerns or to access emergency consultation.
- Home therapy will depend on the client's admission criteria and client/ caregiver willingness and ability to perform support procedures.
- Laboratory data will be obtained and monitored at designated intervals during therapy.
- Solution containers **must not be immersed in water or put in the microwave to speed** warming! Heat can impair stability of solutions and degrade the integrity of plastic containers.
- Catheter-related sepsis is often associated with the presence of fever and/or chills noted a few hours after initiating the infusion and absent at the end of the infusion. Hyperglycemia in previously stable individuals may also indicate catheter sepsis.

PROCEDURE

1. Explain the procedure to the client/caregiver. Position the client for comfort with access to venous device.
2. Assemble equipment and wash hands. Refer to Hand Washing Procedure.
3. Examine TPN bag for leaks and expiration date. Check the label and inspect for particulate matter. If the dextrose, amino acids, and lipids are mixed in one bag, check for separation of emulsion (cracking, or marbling).
4. Don clean gloves.
5. Cleanse medication port with Povidone wipes followed by alcohol wipes. Inject medications utilizing aseptic technique, if indicated. Use special precaution not to pierce TPN bag with additive needle. Gently agitate bag to mix additive.
6. Pull protective cap off TPN bag and spike bag. Prepare infusion pump and prime tubing following manufacturer's recommendations. Use a 0.2 micron filter when administering parenteral nutrition solution. If the dextrose, amino acids and fat emulsion are mixed in one container, use a 1.2 micron filter.
7. Using aseptic technique, access injection site and flush with saline infusion. Tape all connections. Solution should infuse within 24 hours or be discarded. Primary administration sets are changed every 24 hours, immediately upon suspected contamination, or when there is a question of system integrity.
8. For lipid administration:
    a. Use administration set provided with the lipid emulsion.
    b. Use a 1.2 micron filter.
    c. Piggyback the administration set into the parenteral nutrition solution set or administer via "Y-Connector" set.
    d. Infuse on a pump.

9. To discontinue fluids, follow these steps:
    a. Wash hands. Refer to the Hand Washing procedure. Apply gloves.
    b. Prepare saline flush.
    c. Clamp device, if applicable.
    d. Turn off infusion pump.
    e. Using alcohol swab, hold end of venous access and remove access device.
    f. Using clean alcohol swab, clean injection cap for 30 seconds or change the needleless access cap.
    g. Insert saline syringe cannula into injection cap and flush.
    h. Prepare heparin flush if applicable and perform flush as outlined in *Central Venous Catheter Management* procedure.
10. Dispose of supplies as outlined in the Agency Waste Disposal Policy.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Solution administered and medications administered including the dosage, route of administration, rate of infusion, type of pump, date and time of administration
- Start and stop time and client response to the treatment.
- Blood sampling, if ordered.
- Weight, vital signs, and blood glucose, if ordered.
- Appearance of catheter site, catheter patency.
- Client/caregiver competence and compliance with procedure.
- All client caregiver education provided. Type of solution, additives and infusion rate.

RELATED PROCEDURES

Management of Central Venous Catheters, Management of Implantable Vascular Access Devices

BLOOD AND BLOOD COMPONENT ADMINISTRATION

Candidates for home transfusions should have stable cardiorespiratory status and no history of blood transfusion reaction and they should have had a previous transfusion in a hospital setting without incident.

Typing and cross match is done 48 hours prior to transfusion. For infusion in a home setting, back up emergency service shall be available during the transfusion, a physician shall be available by phone during the transfusion, and if a second licensed person is unavailable in the home setting during the client-blood identification, a responsible adult may perform the identification process.

Blood and blood components are administered intravenously per physician orders.
An informed consent must be signed by the client or designated caregiver prior to the transfusion. The nurse administering the transfusion shall have knowledge of blood grouping, blood and its components, administration equipment and technique appropriate for each component, indications for use, monitoring parameters, side effects, toxicities, incompatibilities, storage requirements, transfusion reactions and potential complications.

PURPOSE

To transfuse blood and blood components safely and effectively as required by the client's condition.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- IV pump
- 0.9% normal saline solution (250cc)
- Alcohol swabs
- Gloves
- Blood pressure cuff, stethoscope, and thermometer
- Anaphylaxis kit/pre-transfusion medications
- Blood product administration set with filter (y-type tubing)
- Sharps container
- Tape
- Hazardous waste disposal container

SPECIAL CONSIDERATIONS

- Physician orders must specify:
    - Orders of type and crossmatch of blood and any other pre- and post- transfusion blood tests.

  - Components to be transfused and number of units.
  - Date of transfusion and rate of infusion.
  - Medications for pre-medications and for any drugs to be administered in case of reaction.
- The client must have signed an informed consent for the procedure.
- The client must have previously received blood components in an outpatient or inpatient setting.
- The home must have a telephone available.
- The physician must be available by phone during the transfusion.
- A Registered Nurse will remain with the client for the duration of the transfusion.
- Special filters will be used as recommended by the blood bank.
- No more than two (2) units of packed red blood cells will be infused within a 24-hour period.
- Medications will never be added to the blood component unit.
- One unit of red blood cells will be administered over a one (1) to three (3) hour period, as ordered, and never longer than four (4) hours per unit.
- Platelets will be administered as quickly as possible.
- Platelets and cryoprecipitate will be infused within four (4) hours of the time they are pooled.

PROCEDURE

1. Verify the client's identification with cross match form and unit. Explain the procedure and inquire regarding transfusion history.
2. Verify the physician's availability.
3. Perform a baseline assessment and document findings. Give pre-medications as ordered by the physician.
4. Wash hands. Refer to Hand Washing procedure.
5. Don clean gloves.
6. Prepare IV set with saline and prime filters according to type used.
7. Prepare blood for transfusion. Gently mix cells and plasma by inverting bag several times.
8. Spike unit with administration set, keeping clamp closed. Hang unit on pole.
9. Select venous access and allow 50 cc of saline to infuse.
10. Clamp saline and allow the blood to run through set.
11. Adjust flow rate to 5cc/min. for first 15 minutes. If there are no signs of a reaction, increase the rate so that the transfusion will be completed in prescribed time.
12. Check the client's vital signs every 15-30 minutes throughout the infusion and 30 minutes after the infusion is completed and record on flow sheet.
13. If hanging an additional unit, change the filter and follow steps 10 and 11.

14. Discontinue when the transfusion is completed. Keep IV line open with saline until
    30 minutes after the transfusion has ended.
15. Stop the transfusion immediately if adverse reaction occurs. Follow instruction for transfusion reaction.
16. Dispose of sharps and disposable supplies as outlined in the Agency Waste Disposal Policy.
17. Remove gloves and wash hands. Refer to Hand Washing procedure.
18. Instruct the client/caregiver to check and record the temperature one hour after infusion is completed. Provide written instructions for client/caregiver to follow.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Physician orders and informed consent.
- Start and finish time of the infusion.
- Pre-transfusion assessment and all vital signs taken.
- Identification procedures.
- Blood samples drawn for laboratory testing.
- The client's response to the therapy.
- The amount of saline and transfusion absorbed.
- IV site access and gauge of catheter.
- Client/caregiver instructions given.

BLOOD TRANSFUSION IN THE HOME

- Blood components are to be transported in a shipping container; temperature of the shipping container must be checked to ensure controlled refrigeration and stability of the blood product.
    - For blood and blood components: temperature between 33.8 and 50 degrees Fahrenheit (1-5 C).
    - For platelets between 68 and 75 degrees Fahrenheit (20-24 C).
- Observe standard precautions.
- Attach appropriate filter to administration set - prime administration set with 0.9% sodium chloride and attach to venous access adapter.
- Visually inspect each blood component container for clots, hemolysis, leaks or discoloration. If present, DO NOT TRANSFUSE.
- Use the lowest y site on primary tubing to transfuse. Never infuse any medication or infusate in line with blood components.
- Infuse blood or blood components slowly for the first 15 minutes.
    - A unit of blood or blood components must be transfused within 4 hours.
    - If order for transfusion rate is greater than 4 hours, notify blood bank and obtain clarification from physician.

    - Observe for reactions during the first 15 minutes and then every hour during the transfusion. If any signs of reaction, stop the transfusion and follow the procedure for reaction.
- In home setting, it is recommended that no more than 2 units of blood or blood components may be transfused in a 24-hour period, and no more than 10 units of platelets in a 24-hour period.

RELATED PROCEDURES

None

TRANSFUSION REACTION PROTOCOL

PURPOSE

- To support/assist the client through the reaction.
- To minimize severity of the reaction.
- To alleviate symptoms.
- To provide for arrangement of safe transport to acute care setting, if indicated.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Transfusion reaction kit
- Emergency medication (as ordered by the physician):
    - Diphenhydramine 50mg/cc. IM or IV per orders
    - Epinephrine 1:1000 amp. SubQ or IV per orders
- Blood or blood component
- Normal saline 500cc bag
- Blood administration set
- Blood filter
- Heparin and saline flushes as appropriate
- Needleless cannula and adapter
- Syringes (3cc with 22g needle, 6cc with 20g needle)
- Butterfly needles (19g)
- Peripheral cannula
- IV administration set
- Urine container
- Blood specimen tube
- Gloves, tape, alcohol swabs
- Latex injection ports

PROCEDURE

1. Stop infusion. Disconnect the blood administration set from the adapter or hub of venous access device.
2. Initiate new container of 0.9% sodium chloride using a standard administration set to maintain patency of venous access site.
3. Obtain and document vital signs.

4. Notify physician immediately of signs and symptoms of reaction if the transfusion reaction confirmed, notify the blood bank.
5. Administer therapies as ordered: antihistamine, antipyretic, epinephrine, corticosteroids, oxygen or IV fluids and antihistamines as ordered. If anaphylactic reaction is occurring with vascular collapse (hypotension, rapid pulse, difficulty breathing), follow anaphylaxis protocol and administer epinephrine. Call 911 and begin CPR if cardiac or respiratory arrest occurs.
6. Draw labs as ordered for post-transfusion reaction work-up, label and send to lab Complete transfusion reaction report.
7. Check identifying tags and numbers.
8. Collect blood and urine sample and send to lab.
9. Return blood bags and tubing to blood banks.
10. Arrange for client transport to acute setting, if indicated.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Time and date of reaction.
- Type and amount of infused blood product.
- Clinical signs of reaction in order of occurrence.
- The client's vital signs, and all signs and symptoms noted.
- All specimens sent for laboratory testing.
- Time of Physician notification and any emergency medical treatment provided, including medications administered, times and dosages, and response to treatment. Time of blood bank notification.
- The client's response to treatment.
- Documentation to complete agency transfusion reaction form.
- The client's status at the end of the incident.

RELATED PROCEDURES

None

INTRAVENOUS PAIN MANAGEMENT

Today pain is recognized as a subjective experience that requires an individualized approach to treatment. The emphasis on pain assessment is best summed up with the statement, “Pain is the fifth vital sign.”

Intravenous pain management medications and patient-controlled analgesia (PCA) are administered via continuous infusion, intermittent doses or a combination of both. Nurse administering IV pain management must be knowledgeable of medications used, indications for use, appropriate dosage and diluents, administration, monitoring parameters, side effects, toxicities, incompatibilities, stability, storage requirements potential complications and both conventional and advanced methods of pain control.

PURPOSE

- To provide effective and safe pain management in the home setting.
- To document effectiveness of therapy and response to therapy.
- To prevent complications.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Intravenous solution.
- Administration set.
- Heparin and saline flushes.
- Needleless cannula and adapter.
- Electronic infusion device.
- Gloves.
- Alcohol wipes.
- Tape and dressings as indicated.

PROCEDURE

1. Educate client/family on medications, pump operation, side effects and potential complications.
2. Obtain baseline vital signs.
3. Assess patient’s response to pain medication using appropriate pain scale. It is important that the pain assessment tools are used consistently so that an accurate picture of pain management effectiveness is documented.

4. Monitor for signs of respiratory depression, nausea and vomiting, pruritus, urinary retention, and hypertension.
5. Inspect solution container for leaks, cracks or particulate matter.
6. Flush access device as necessary.
7. Change peripheral and central primary administration sets every 72 hours, immediately upon suspected contamination or when there is question of system integrity.
8. Change primary administration set when peripheral cannula change is completed.
9. Use electronic infusion device (pump).
10. Follow manufacturer's recommendations for priming tubing and pump settings.
11. Instruct client on use of PCA infusion device including expected outcomes, precautions and potential side effects.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type of fluid administered, medication, dosage, route, rate of infusion, type of infusion controller, date and time of administration, and client response.
- Client pain assessment shall be documented carefully.

RELATED PROCEDURES

None

PT INR MONITOR

The PT/INR is a test to determine the clotting tendency (coagulation) of blood and is most commonly used in monitoring the accuracy of blood thinning products such as Warfarin. A person taking the anticoagulant Warfarin (coumadin) must be tested regularly to ensure their INR stays within a specific range often referred to as a "target range". A person is considered out of range when their result is higher or lower than the physician established target range.

INR is an acronym and stands for International Normalized Ratio. A blood test for clients on coumadin has several different names including Prothrobin time, Pt, or INR.

All of these names have the same meaning for clients. Professionals use the term INR as this is the accepted terminology for a blood test result for someone taking Warfarin (coumadin). The INR is used to standardize the blood test providing the same result regardless of where the client has the blood sample taken.

Erroneous or inaccurate PT/INR results can have a damaging effect on clients so it is essential that the device passes quality control tests to confirm the reliability and accuracy of the test. Users of the equipment must be aware of:

- Need for calibration (some self calibrate).
- Self diagnostics that will detect testing problems
- Steps required to complete procedure
- Amount of blood needed.
- How results are displayed.

Notes about blood testing:

- Operate the meter at temperatures between 59°F and 90°F.
- Refer to the test strip package insert for proper use and handling of test strips.
- Keep the test strip guide and meter clean (see meter cleaning instructions for each meter).
- Meters should not be left in cars and exposed to extreme temperatures, either hot or cold. This interferes with machine function.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Testing device
- Test strips

- Lancets or automated device
- Alcohol wipes
- Gloves

PROCEDURE

1. Identify client per agency guidelines
2. Wash hands per hand washing procedure
3. Explain the procedure to the client.
4. Verify current medication doses and medication schedule.
5. Insert test strip into the machine. Make sure the code number on the test strip container and the code chip match.
6. meter will perform a self check. (If machine requires calibration, perform according to product instructions).
7. Cleanse finger with alcohol wipe.
8. Put on gloves.
9. Use lancet or pen to obtain drop of blood.
10. Apply the drop of blood to the test strip. (Amount of blood needed also varies with the device being used.)
11. Blood is drawn into the test area where it mixes with reagents that cause coagulation
    to begin.
12. Meter performs the PT test and quality control tests and determines whether the controls are within preset limits. If they are, strip integrity is verified and the meter reports the test result. If they are not the meter displays an ERROR message.
13. Test results are displayed in less than 2 minutes (varies per device).
14. Results are displayed as PT or PT and INR depending on the settings.
15. Remove gloves.
16. Dispose of equipment
17. Wash hands.
18. Document the reading and compare to previous levels.
19. Notify the physician of results and notify client if there are changes in medication
    doses or schedule.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Test completed and results.
- Medication doses and times taken
- Physician orders of changes if applicable
- Client tolerance of procedure
- Client response to teaching if applicable
- Return demonstration by client/caregiver if applicable.

BLOOD CULTURES

PURPOSE

To detect the presence of bacteria or fungi in the blood, to identify the type present, and to guide treatment.

APPLIES TO

- Registered Nurses who have demonstrated competency
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Tourniquet
- Gloves
- Alcohol and antiseptic/antimicrobial swabs
- 10 ml syringe for an adult and 6 ml syringe for a child
- Two blood culture bottles with sodium poly ethanol sulfonate added (one aerobic bottle containing a suitable medium such as trypticase soy broth with 10% carbon dioxide atmosphere; one anaerobic bottle with pre-reduced medium; and possible one hyperosmotic bottle with 10% sucrose medium
- Laboratory request form and biohazard transport bags
- 2 x 2 gauze sponges
- Small adhesive bandages

PROCEDURE

1. Explain the procedure to the client.
2. Wash hands per protocol.
3. Put on gloves.
4. Put on tourniquet proximal to the area chosen.
5. Clean the site with an alcohol pad. Allow to dry.
6. Clean the area with antiseptic skin cleanser pad. Allow to dry.
7. Perform a venipuncture, drawing 10 ml of blood from an adult and 2-6 ml from a child.
8. Wipe the diaphragm tops of the culture bottles with a providone-iodine pad.
9. Change the needle on the syringe used to draw the blood.
10. Inject 5 ml of blood into each 50 ml or 2 ml into the 20 ml pediatric culture bottle.

11. Label the culture bottles with the client name, nurse's name, date and time of collection.
12. Identify the client temperature and recent antibiotic therapy.
13. Discard supplies in appropriate container.

***NOTE:** Avoid drawing from existing IV lines unless catheter sepsis is suspected.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of sample collection.
- Amount of blood collected.
- Number of bottles used.
- Client temperature.
- Name of lab where specimen taken.

RELATED PROCEDURES

None

MIDSTREAM AND CLEAN CATCH URINE COLLECTION

PURPOSE

To collect an uncontaminated specimen for laboratory testing.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Commercial kit for clean voided urine; (or sterile urine container), antiseptic towelettes or cotton balls, and antiseptic solution
- Sterile gloves
- Soap, washcloth, and towel
- Bedpan (for non-ambulatory clients), specimen hat, commode, potty chair (for children)

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Assist the client onto the bedpan/commode or to the bathroom.
3. Open sterile kit or sterile supplies and don sterile gloves. Open specimen container and place cap with sterile inside surface up. Do not touch the inside of the container. This maintains sterility of equipment and prevents direct skin contact with urine.
4. Cleanse, or allow the client to cleanse, perineal area with antiseptic towelettes or cotton balls saturated with antiseptic solution. This removes bacteria near urethral opening.
    a. Females: Separate labia with thumb and forefinger of nondominant hand. Cleanse area, wiping from front to back. Repeat three times, using new toilette or cotton ball each time. Keep labia separated after cleaning.
    b. Males: Hold penis in nondominant hand and retract foreskin, if applicable. Using circular motion, cleanse around meatus moving from center to outside.
5. Instruct the client to void. After stream has begun, place specimen container and collect 30 to 60 ml of urine. Remove container before flow of urine stops. Mid-stream collection minimizes contamination by bacteria at the urinary meatus.
6. Cap container, touching only the outside. Cleanse outside of container.

7. Remove gloves and dispose of equipment as outlined in the Agency Waste Disposal Policy.
8. Wash hands. Refer to Hand Washing procedure.
9. Label specimen container and place in biohazard bag. Attach completed requisition. Deliver to laboratory within 15 minutes or refrigerate. Falsely elevated levels of bacteria can occur if specimen is not refrigerated.

A contaminated specimen is the single most common reason for inaccurate reporting on cultures and sensitivities.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of collection.
- Method of collection.
- Urine characteristics: color, odor, amount.
- Time specimen sent to laboratory.
- Refrigeration if required.

RELATED PROCEDURES

None

URINE SPECIMEN COLLECTION FROM INFANT OR SMALL CHILD

PURPOSE

To obtain a clean urine specimen for diagnostic testing.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Cleansing solution
- Towel
- Pediatric urine collector
- Diaper
- Specimen containers
- Clean gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Put on clean gloves.
3. Cleanse and dry perineal area.
4. Apply urine collector to child's perineum, using care to avoid rectal area.
    a. Males: Place penis in opening of the collector bag.
    b. Females: Place the urine collector bag over the urinary meatus.
5. Place diaper on to hold container in place.
6. Check container frequently until specimen obtained.
7. When child voids, apply clean gloves.
8. Remove collector and place in the specimen container.
9. Diaper child.
10. Remove gloves and wash hands. Refer to the Hand Washing procedure.
11. Send specimen to the lab.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Amount, color, character and odor of urine.
- Time specimen sent to laboratory.
- Any pertinent findings.

RELATED PROCEDURES

None

URINE SPECIMEN COLLECTION FROM AN INDWELLING CATHETER

PURPOSE

- To obtain a specimen from a client with an indwelling catheter.
- To obtain a sterile urine specimen with the least risk of contamination.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- 20-ml syringe with 1-inch needle (23 or 25 gauge) for routine urinalysis and/or 3 ml syringe with 1-inch needle (23 or 25 gauge) for culture
- Tube clamp or rubber band
- Alcohol, Povidone-iodine, or other disinfectant solution
- Sterile specimen container
- One pair of disposable gloves

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Empty and clamp drainage tubing for 30 minutes before collection. This allows for the collection of fresh, sterile urine in the catheter tubing.
3. Wash hands. Refer to Hand Washing procedure.
4. Don clean gloves.
5. Position the client so that the catheter sampling port is accessible.
6. Cleanse catheter sampling port with alcohol, povidone-iodine, or other disinfectant swab.
7. Insert needle into catheter sampling port and withdraw the amount of urine required for the test being performed. This allows for the collection of urine without contamination, and the proper volume is obtained.
8. Transfer urine from the syringe into the specimen container. Take precautions to maintain sterility. Secure lid on container.
9. Discard syringe into sharps container.

10. Remove gloves and discard equipment according to the Agency Waste Disposal Policy.
11. Wash hands. Refer to Hand Washing procedure.
12. Label container and place in biohazard bag. Deliver specimen with requisition to laboratory within 15 minutes or refrigerate.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of collection.
- Method of collection.
- Urine characteristics: color, odor, amount.

RELATED PROCEDURES

None

STOOL SPECIMEN COLLECTION

PURPOSE

- To obtain specimen for diagnostic purposes.
- To assess for bleeding.
- To detect presence of parasites.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Waxed cardboard specimen container with lid or sterile test tube with swab
- Two tongue blades
- Paper towel
- Clean or sterile bedpan, commode, specimen hat, or potty chair (for children)
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Don clean gloves.
3. Bed bound client:
    a. Assist the client onto the bedpan/commode.
    b. Instruct the client to void before defecating.
    c. Urine specimens collected in bedpan or commode should be discarded before defecating. Provide the client with a clean bedpan or commode. Feces should not be mixed with urine or toilet tissue, which interfere with test results.
4. Ambulatory client:
    a. Encourage the client to use the bathroom.
    b. Instruct the client to void into the toilet before defecating.
    c. After the client has defecated, place clean potty hat on the toilet. Feces should not be mixed with urine or toilet tissue, which interfere with test results.
5. Assist the client with washing after toileting and place in comfortable position.

6. Obtain the specimen:
    a. Culture: Using swab from test tube, gather a bean-sized piece of stool and return swab to tube. If stool is liquid, soak a cotton swab and place it in the tube. The swab is used to prevent the transfer of bacteria to other objects.
    b. Other Stool Tests: Using a tongue blade, transfer approximately 1-inch of formed stool or 15 ml of liquid stool to the appropriate container. A tongue blade is used to prevent transfer of bacteria to other objects.
    c. Timed Stool Specimen: Tests performed require analysis of feces over time. All of each stool is placed in wax cardboard containers for a specified time period, as ordered.
    d. Cover stool specimen container immediately after use. Store specimen containers in the refrigerator.
7. Wrap used tongue blades in paper towels and discard.
8. Empty and clean bedpan, commode, or specimen hat.
9. Remove gloves and discard equipment as outlined in the Agency Waste Disposal Policy.
10. Wash hands. Refer to Hand Washing procedure.
11. Place labeled specimen in biohazard bag and attach requisition. Deliver to laboratory or place in refrigerator. This provides proper identification to minimize errors. When collecting stool for parasites, specimen at body temperature should be examined within 30 minutes.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Date and time of collection.
- Appearance of stool.
- Purpose of stool collection.
- Time specimen taken to the lab.

RELATED PROCEDURES

None

MEASURING OCCULT BLOOD IN STOOL

PURPOSE

To test for occult blood in feces.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Hemoccult test: Cardboard Hemoccult slide and developing solution
- Hematest: Hematest tablets and Guaiac paper
- One pair of disposable gloves
- Paper towel
- Wooden applicators

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Don clean gloves.
3. Bed bound or ambulatory client:
    a. Assist the client onto the bedpan/commode/toilet.
    b. Instruct the client to void before defecating.
    c. Urine specimens collected in bedpan or commode should be discarded before defecating. Provide the client with a clean bedpan or commode. Feces should not be mixed with urine or toilet tissue, which interfere with test results.
4. Assist the client with washing after toileting and place in comfortable position.
5. Take specimen to bathroom or utility room.
6. Using tip of wooden applicator, obtain a small portion of stool and apply to appropriate testing material. Wooden applicator is used to prevent transfer of bacteria to other objects. A small specimen is sufficient for measuring blood content.
7. Perform Hemoccult slide test:
    a. Open flap of slide. Apply thin smear of stool on paper in first box.
    b. Obtain second fecal specimen from different portion of stool and apply to second box on slide. Allow specimen to dry for 3 to 5 minutes.

c. Close flaps and turn slide over. Open the flap on the reverse side. Apply two drops of guaiac developing solution on the paper over each smear.

d. Note color changes. A blue reaction will appear within 30 to 60 seconds if the test
is positive. Any trace of blue indicates a positive. Color reaction fades within 2 to 3 minutes.

e. Dispose of test slide in proper container.

8. FIT (fecal immunochemical test) detects human globin, a protein that, along with heme, constitutes human hemoglobin. This test is more specific for human blood that the guaiac tests. Also more specific for lower GI bleeding, which is more specific for detecting colorectal cancers.

   a. FIT Testing:

      - Open the flap on the test card and remove one of the long-handled brushes from the kit.
      - Gently brush the surface of the stool with the brush and then rinse the brush in the toilet water surrounding the stool.
      - Dab the brush on the test card and close the flap.
      - Label the specimen.
      - Place the test card in the laboratory biohazard transport bag and send to lab.

9. Wrap wooden applicator in paper towel and discard.
10. Empty and clean bedpan, commode, or specimen hat.
11. Remove gloves and discard equipment as outlined in the Agency Waste Disposal Policy.
12. Wash hands. Refer to Hand Washing procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Type of test performed.
- Results of test.
- Date and time of collection.
- Appearance and odor of stool.
- Discomfort verbalized by the client during procedure.

RELATED PROCEDURES

None

SPUTUM SPECIMEN COLLECTION

PURPOSE

- To identify pathogenic microorganisms and/or cancerous cells in the tracheobronchial tree.
- To determine sensitivity of bacterial cells to antibiotics.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Expectorated specimen:
  - Sterile, closed system specimen container
  - One pair of disposable gloves
  - Emesis basin (optional)
  - Facial tissues
  - Toothbrush
- Suctioned specimen:
  - Suction device (wall or portable)
  - Sterile suction catheter (14 to 18 Fr.)
  - One sterile glove or one pair of sterile gloves
  - In-line specimen container (sputum trap)
  - Sterile normal saline
  - Oxygen therapy equipment as indicated
  - Water-soluble lubricant (optional)

PROCEDURE

1. Wash hands. Instruct the client to wash his/her hands if obtaining expectorated specimen. Refer to Hand Washing procedure.
2. If possible, collect specimen early in the morning before breakfast as secretions accumulate overnight, making collection easier. If TB is suspected, use airborne precautions to reduce risk of transmission.
3. If collecting expectorated specimen, instruct the client to rinse mouth or brush teeth with water. This removes excess food particles and decreases the number of oral contaminants. Use water instead of toothpaste, as toothpaste can alter the viability of the microorganisms.

4. Expectorated specimen: Place or assist the client into a semi-Fowler's or standing position. Suctioned specimen: Place or assist the client into a high or semi-Fowler's position. Positioning promotes full lung expansion and promotes coughing.
5. Don clean gloves.
6. Collection of expectorated specimen:
    a. Instruct the client on the use of the specimen container. Instruct him/her not to touch the inside of the container.
    b. Instruct the client in cough and deep breathing exercises and have the client perform them. This opens the airway and stimulates cough reflex.
    c. Instruct the client to expectorate sputum directly into sterile container.
    d. Repeat until a sufficient amount of sputum is obtained. Collect 2 to 10 ml or 1 to 2 teaspoons of sputum.
    e. Tightly secure top on container.
7. Collection of suctioned specimen:
    a. Prepare suction machine and equipment. Test to ensure suction function is working.
    b. Connect plastic adapter end of sputum trap to end of suction connector tubing.
    c. Open and maintain sterility of suction catheter. Don sterile gloves. Procedure is sterile.
    d. Connect sterile suction catheter to rubber tubing end of specimen container. Maintain sterility of dominant hand and suction catheter.
    e. Without applying suction, gently insert catheter tip into the client's nares, endotracheal tube or tracheostomy.

***Note:** You may use water-soluble lubricant when suctioning through nasopharynx. This minimizes trauma to airway with catheter insertion.

    f. Advance catheter to trachea and apply suction for 5 to 10 seconds (when the client begins to cough). Collect approximately 2 to 10 ml of sputum. Sputum is collected from lower tracheobronchial tree. Hypoxia is minimized with limited suction time.
    g. Stop applying suction and remove catheter.
    h. Turn off suction and detach catheter from specimen container.
    i. Rinse connection tubing in normal saline until clear.
    j. Gather catheter in hand, remove glove(s) around catheter, and discard.
    k. Securely connect plastic adapter and rubber tubing.

8. Discard equipment as outlined in the Agency Waste Disposal Policy.
9. Wash hands. Refer to Hand Washing procedure.
10. Place labeled specimen in biohazard bag and attach requisition. Deliver to laboratory.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Specimen collection method, time, and date.
- Sputum characteristics: amount, color, consistency odor.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

WOUND DRAINAGE COLLECTION

PURPOSE

To determine presence of pathogenic microorganisms in a wound.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Culture tube with cotton-tipped swab and transport medium (aerobic culture)
- Anaerobic culture tube with swab
- 5-to 10-ml syringe with 21-gauge needle
- One pair disposable gloves
- One pair sterile gloves
- Antiseptic swab
- Dressing change supplies
- Disposable plastic or paper bag

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Don disposable gloves and remove old dressing. Assess drainage and characteristics. Fold dressing together and discard.
3. Cleanse outer edges of wound with antiseptic swab to remove old exudate. This prevents possible contamination by removing skin flora.
4. Remove disposable gloves and discard waste.
5. Open culture containers and prepare dressing supplies.
6. Don sterile gloves.
7. Collect Aerobic Culture:
    a. Insert tip of swab from tube into drainage area of wound and rotate gently.
    b. Remove swab and place in tube.
    c. Crush ampule of medium and push swab into fluid.
    d. Tightly secure top on container. Specimen should be collected from fresh drainage.

8. Collect anaerobic culture:
    a. Insert tip of swab from anaerobic tube deeply into draining body cavity and rotate gently. Remove swab and place in tube. Oxygen is not present when specimen is collected from deep within wound.

       OR

    b. Insert tip of 5-to 10-ml syringe (without needle) into wound and aspirate drainage. Attach needle and expel all air. Inject drainage into anaerobic culture tube. Ensure that no air is injected. Air will cause organisms to die.
9. The culture must come from the cleanest tissue possible, not pus, slough, or necrotic material.
10. Clean wound and perform dressing change according to the appropriate wound care dressing procedure. Secure in place.
11. Remove gloves and discard equipment as outlined in the Agency Waste Disposal Policy.
12. Wash hands. Refer to Hand Washing procedure.
13. Place labeled specimen(s) in biohazard bag and attach requisition. Deliver to laboratory.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Specimen collection type, date, and time.
- Appearance of wound, drainage characteristics, and signs and symptoms of infection.
- The client's tolerance of the procedure.

RELATED PROCEDURES

Wound Care Procedure, as appropriate

NOSE AND THROAT SPECIMEN COLLECTION

PURPOSE

To detect pathogenic microorganisms in the nose and throat and to determine the degree of infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile culture tubes with two swabs (flexible wire swab with cotton tip may be used for nose cultures)
- Tongue blades (throat collection)
- Nasal speculum (nose collection)
- Facial tissues
- One pair of disposable gloves
- Penlight
- Emeses basin or clean container

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Explain the procedure to the client.
3. Don clean gloves.
4. If possible, position the client in sitting position.
5. Loosen top of tube to prepare for use.
6. Throat culture collection:
    a. Have the client tilt his/her head backwards. Position client with a pillow between shoulders.
    b. Ask the client to say “Ah.”
    c. Depress anterior 1/3 of tongue blade if unable to visualize pharynx. Note areas of inflammation on pharynx or tonsils.
    d. Insert swab into the client’s mouth without touching lips, teeth, tongue, or cheeks. Swab tonsil areas that are most inflamed or purulent.

e. Withdraw swab carefully without touching oral structures and immediately place swab in culture tube. Crush ampule at bottom of tube and push tip of swab into the liquid medium.

f. Secure top of tube.

7. Nose culture collection:

a. Have the client blow nose. Check for patency of nostrils with penlight. Have the client alternately occlude each nostril and exhale.

b. Position the client with head tilted back. Position bed bound client with a pillow between shoulders.

c. Gently insert nasal speculum in one nostril.

d. Carefully pass swab through the speculum until it reaches the inflamed portion of the nostril. Rotate swab quickly.

e. Remove swab without touching sides of speculum and immediately place swab in culture tube. Crush ampule at bottom of tube and push tip of swab into the liquid medium.

f. Gently remove speculum and place in basin. Offer client facial tissues.

8. Remove gloves and discard waste as outlined in the Agency Waste Disposal Policy.

9. Wash hands. Refer to Hand Washing procedure.

10. Place labeled specimen in biohazard bag and attach requisition. Deliver specimen to laboratory or place in refrigerator.

DOCUMENTATION GUIDELINES

Document in clinical record:

- Specimen collection type, time, and date.
- Appearance of nasal and oral mucosal structures.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

VAGINAL OR URETHRAL DISCHARGE COLLECTION

PURPOSE

To detect pathogenic microorganisms in vaginal or urethral discharge.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Sterile culture tube with swab
- One pair of disposable gloves
- Paper drape, sheet, and blanket
- Penlight or bedside lamp, if needed

PROCEDURE

1. Wash hands. Refer to Hand Washing procedure.
2. Provide privacy for the client and explain the procedure.
3. Assist the client into the proper position and drape:
    a. Female: Have the client lay on her back. Drape sheet over genitalia and each leg.
    b. Male: Have the client sit or lie on his back. Drape sheet over genitalia and across lower trunk.
4. Don clean gloves.
5. Use lamp or penlight to increase lighting.
6. Open tube with swab in dominant hand.
7. Instruct the client to take slow, deep breaths.
8. Obtain female specimen:
    a. Vaginal:
        - Using nondominant hand, separate labia to expose vaginal opening.
        - Swab exposed discharge. Do not touch skin or mucosa. If there is no visible discharge, insert swab into vagina 1/2 to 1 inch. Rotate swab and remove. See figure - for instructions for handling specimen.

b. Urethral:

- Expose urethral meatus by gently pulling labia minora up and back with nondominant hand.
- Swab exposed discharge at tip of meatus. Do not touch labia.

9. Obtain male specimen:
   a. Using nondominant hand, hold penis near the tip. Retract foreskin if the client is not circumcised.
   b. Swab area of discharge at tip of penis.
   c. Insert swab into inner meatus (1/2 inch). Rotate and remove.
   d. Return foreskin to natural position, if applicable.
10. Place swab in culture tube and secure top.
11. Remove gloves and discard waste as outlined in the Agency Waste Disposal Policy.
12. Wash hands. Refer to Hand Washing procedure.
13. Assist client to a comfortable position.
14. Place labeled specimen in biohazard bag and attach lab request. Deliver to lab.

DOCUMENTATION GUIDELINES

Document in clinical record:

- Specimen collection type, date, and time.
- Appearance of vaginal orifice of urinary meatus and discharge characteristics.
- The client's tolerance of the procedure.

RELATED PROCEDURES

None

CARE OF CLIENT WITH SPINAL CORD INJURY

- **Level of injury:** Refers to the location of the injury on the spinal cord. The letter is the first initial of the section of the spinal cord. The number is the number of the vertebra in that section.
- There are 4 sections in the spinal column: cervical, thoracic, lumbar, and sacral. The spinal cord nerves enter and leave the spinal cord within these sections. When the cord is injured and nerves are damaged, the particular parts of the body that send and receive messages from those nerves cannot function. Knowing the level of injury determines how to best maximize the client's abilities. The actions of all the nerves located below the injury are weakened, interrupted or stopped. The higher the injury the less muscle function is available to the person.
- **Severity of injury:** Determines the extent of a spinal cord injury. The level of injury to the cord may be different from the level of injury to the vertebral column. Lying within the vertebrae, the cord can be compressed, bruised, severed, or partially cut. Both voluntary and involuntary muscles may be affected, depending on the level and severity of injury.
- **Voluntary muscles:** Move when directed by the brain to perform intended actions such as raising an arm to lift a fork.
- **Involuntary muscles:** Also receive messages from the brain and spinal cord, but these muscles produce movements such as bladder and bowel activities and sexual function.
- **Paraplegia:** The injury occurred in the lower part of the back. The client loses use of legs and torso. He/she can use voluntary muscles to move head, hands, arms and for breathing. He/she can use his arms to propel his wheelchair, transfer self, and perform many of the activities of daily living. Care is directed toward skin care, bowel and bladder and loss of sensation below the level of injury.
- **Quadriplegia:** The injury damaged the spinal cord near the upper back or neck. There is no feeling or voluntary movement below the neck. loss of control for both arms, both legs, and likely the neck and breathing muscles. Care is directed toward preventing complications and maintaining the individual at THE HIGHEST level of functioning.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

PRINCIPLES

- Understand the use of and maintenance of equipment and assistive devices.
- Encourage client to direct own care.
- Encourage good health maintenance activities.
- Provide good nutrition.

- Provide rigorous skin care program that includes proper positioning and correct body alignment.
- Establish and follow bowel and bladder programs.
- Maintain mobility and range of motion.
- Assist with respiratory programs as needed.
- Keep a safe clean environment.
- Treat as a competent individual and encourage independence.

SPECIAL CONSIDERATIONS

- **Loss of sensation and position:** This group of losses includes loss of sensation, touch, temperature, awareness and position of body parts. The client cannot experience how his body feels, and he cannot feel what he touches. The client cannot feel temperatures of hot or cold cannot feel pain and cannot feel pressure on his skin. Be observant and anticipate problems.
- **Bowel and bladder programs:** Clients who have lost voluntary control over their bowel and bladder functions can have successful regulatory programs for these functions.
- **Importance of skin care:** The individual has lost communication between the brain, spinal nerve cords, and the skin below the level of injury. When feelings are not communicated, the skin's job is more difficult to carry out.
- **Pressure ulcers:** An area where the skin has broken down. May appear as a reddened area, may be breaks in the skin ranging from cracks to large open wounds. Any kind of pressure on the skin for an extended period of time can cause pressure ulcers.
- **Spasticity:** Involuntary and uncontrolled muscle movements. This is a response to increased muscle tone. There may be tremors and rigidity. Spasticity can affect arms, legs or areas of the trunk. This problem can be triggered by such things as changing position, stimulation of heat, cold or pain, and by tight fitting shoes or clothing. A general rule is to move muscles slowly when working with a client who has spasticity. This can be treated with medications, treatments, and exercises.
- **Postural hypotension:** Decrease in blood pressure that occurs when client sits or stands up. The part of the nervous system that regulates the blood pressure during these movement changes is not fully operational due to the spinal cord injury. These clients have low blood pressure readings and reduced urinary output while sitting.
- Signs and symptoms of postural hypotension are:
    - Sweating.
    - Pale color.
    - Weakness.
    - Fainting.
    - Blood pressure lower than baseline.
    - Weak rapid pulse.

RESOURCES FOR SPINAL CORD INJURY

- Hoeman, Shirley P., *Rehabilitation/Restorative Care in the Community,* C.V. Mosby Publishing 1990.
- Consortium for spinal cord medicine “neurogenic bowel management in adult with spinal cord injury.
- Clinical Practice Guidelines for pressure ulcers and treatment, Consortium for spinal cord medicine. Copyright 2000, paralyzed veterans of America www.pva.org.

RELATED PROCEDURES

None

IDENTIFYING AND TREATING AUTONOMIC DYSREFLEXIA (HYPERREFLEXIA)

Possible problem for individuals with a spinal cord injury at T-6 or above.

- This is caused by an overreaction of the nervous system to an irritation or stimulus below the level of spinal cord injury. if not treated, it is life threatening.
- Signals from the irritated area are sent to the brain. Because of the injury, the message does not reach the brain. a reflex is started and continues to try to send a message to the brain. This reflex becomes “hyper”. The reflex makes blood vessels squeeze or tighten, making blood pressure rise. In the absence of the injury, blood vessels would dilate to lower the blood pressure. When this is not possible, the blood pressure keeps rising. Uncontrolled high blood pressure may lead to stroke, seizures, or death.

The most common cause of autonomic dysreflexia is a full bladder. The distension can result from urinary retention or catheter blockage, and it accounts for up to 85% of all cases. The second most common triggering for autonomic dysreflexia is bowel distension due to fecal impaction.

- Other common causes include: urinary tract infections, blockage of urinary catheter, constipation, impaction, pressure sores, open wounds tight or wrinkled clothing and painful stimulation caused by cuts, bruises or pressure. In some cases, it may be precipitated by sexual activity or menstruation. It does not happen in all individuals; prevention is the key.

Symptoms of autonomic dysreflexia:

- Elevated blood pressure.
- Pounding headache.
- Flushed face.
- Red blotches on chest.
- Sweating above the level of the injury.
- Chills or clammy skin.
- Nasal stuffiness.
- Nausea.
- Anxiety.
- Slow pulse.

PURPOSE

- To identify and respond to this life threatening complication seen in persons with spinal cord injuries
- To train clients and caregivers of symptoms to report and respond

APPLIES TO

- Registered nurses
- LPN

- Therapists
- Aides
- Other caregivers

PROCEDURE

1. Place person in sitting position.
2. Elevate head of bed.
3. Check for irritants and correct them.
4. Check indwelling catheter for kinks or anything impeding urine flow.
5. Check for tight clothing, belts, shoes, elastic stockings, binders or equipment and loosen them.
6. Check urine drainage bag. if it is too full, empty it.
7. Check rectum for stool or impaction. Treat as emergency. Do not leave the client alone.
8. If client condition worsens or he/she faints, call 911.

DOCUMENTATION GUIDELINES

- Document in record
- Signs and symptoms reported or observed
- Vital sign check
- Catheter patency
- Actions taken and client response

RELATED PROCEDURES

None

SEIZURE MANAGEMENT

Seizures are paroxysmal events associated with abnormal electrical discharges of neurons in the brain. Partial seizures are usually unilateral, involving a localized or focal area of the brain. Generalized seizures involve the entire brain. Appropriate care includes observation of seizure characteristics and protecting the client from injury and complications.

CLASSIFYING SEIZURE TYPES

Partial or focal seizures: Arise from a localized area in the brain and cause specific signs and symptoms associated with the part of the brain affected.

1. Simple partial seizures:
    a. Don't cause altered consciousness.
    b. Alert and oriented but cannot control symptoms.
    c. An aura or warning of an impending seizure is actually a simple partial seizure.
    d. Some manifestations could be motor signs, like jerking of thumb or cheek, visual or auditory hallucinations or sensations, autonomic signs like tachycardia or sweating.
2. Complex partial seizures:
    a. Altered consciousness.
    b. Client not aware of environment.
    c. May experience automatic purposeless movements, such as lip smacking, eye blinking, or walking aimlessly.
3. Secondarily generalized seizures:
    a. May progress to a generalized seizure as both hemispheres of the brain are involved. Loss of consciousness may occur immediately or in 1 to 2 minutes.
4. Primary generalized seizures:
    a. General electrical abnormality involving both sides of the brain; there is not a localized or focal onset of the activity.
    b. Primary generalized seizures include absence, myoclonic, tonic-clonic, atonic, tonic, and clonic.
    c. Absence seizures: Common in children but may affect adults. Brief change in level of consciousness; indicated by blinking or blank stare, so brief, the client may not be aware of it.
    d. Myoclonic seizures: Abrupt muscle contractions of extremities. May occur in face or be generalized.
    e. Tonic-clonic (grand mal) seizures: Begins with a loss of consciousness followed by the tonic and clonic activity: the body stiffens and then alternates between episodes of muscle spasm and relations. Tongue biting,

incontinence, labored breathing, apnea may occur. Lasts 2 to 5 minutes and when client regains consciousness, may be confused and have difficulty talking.

f. Atonic seizures: General loss of muscle tone and temporary loss of consciousness; occur in young children and are called “drop attacks” because the person will fall forward.

g. Tonic seizures: Involve stiffening of the extremities; may be associated with falling.

h. Clonic seizures: Symmetrical limb jerking.

PURPOSE

- To identify and describe seizures.
- To prevent injury and maintain airway.
- To identify and eliminate safety hazards in the environment.
- To describe safety measures.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Padding (pillows) for side rails
- Oral airway and oral suction equipment
- Gloves
- Seizure activity record

PROCEDURE

1. Assess for medical and surgical conditions that may lead to seizures or exacerbate existing seizure conditions.
2. Assess medication history and client’s adherence. Also assess for therapeutic blood levels.
3. Inspect client’s environment for potential safety hazards if seizures occur.
4. When seizure begins, position client safely. Guide to floor and protect head cradling or placing pillow under head.
5. If possible, provide privacy.
6. If possible, turn client on side with head flexed slightly forward.
7. Do not restrain client and do not force any objects into the client’s mouth.

8. Maintain airway and suction as needed.
9. Stay with client observing sequence and timing of seizure activity.
10. After seizure is over, explain what happened and answer questions.
11. Complete head to toe assessment to determine presence of any injury.
12. Assess client's mental status (level of consciousness, confusion, hallucinations).
13. Assess for bowel and/or bladder incontinence.
14. Observe client's color and respiratory rate and pattern.
15. Assess the client's cardiopulmonary status and evaluate the signs and symptoms of seizures. Observe the earliest symptom such as head or eye deviation as well as how the seizure progresses, what form it takes and how long it lasts.
16. Stay with the client during seizure.
17. Do not restrain the client.
18. Push away nearby objects and, if possible, ease the client to the floor.
19. Loosen clothing, if constrictive and provide padding, if possible (pillows on either side).
20. Maintain airway by positioning the client in a side-lying position to promote drainage and prevent aspiration.
21. Do not put anything in the client's mouth. Padded tongue blades are no longer recommended.
22. Provide reassurance during the postictal state by reorientation, offering comfort and privacy. Expect most clients to experience a postictal period of decreased mental status that may last from 30 minutes to 24 hours.
23. Check for any injuries sustained during the seizure.
24. Stay with the client until he/she is fully conscious or until the caregiver is available.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Description and length of seizure.
- Any precipitating factors.
- Identify any sensation that may be considered an aura.
- If seizure was preceded by an aura, describe what the client states he/she experienced.
- Record any incontinence, vomiting or salivation that occurred during the seizure.
- Any medications given and any interventions performed.
- If the seizures persist, seek medical attention by calling 911.

RELATED PROCEDURES

None

NEURO ASSESSMENT

Neurologic assessment supplements the routine measurement of temperature pulse and respirations by assessing level of consciousness, pupillary response and orientation to time, place and person. These findings provide a tool for quickly assessing the neurologic status. Changes in vital signs alone rarely indicate neurological compromise, so changes are evaluated in light of a complete neurological assessment.

PURPOSE

- To adequately determine the level of consciousness.
- To screen for the presence of sensory or motor impairment.
- To evaluate cognitive and behavioral elements of the physical examination.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses (per state nurse practice act and agency policy)
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Blood pressure cuff and stethoscope
- Penlight or flashlight
- Safety pin

PROCEDURE

1. Assess whether the client is taking any pain medication or central nervous system depressants or other medications that could influence findings.
2. Screen for symptoms such as headaches, dizziness, visual disturbance, weakness, dysphasia or sensory-perceptual impairment.
3. Explain the procedure to the client.
4. Measure temperature, pulse, respirations and blood pressure.
5. Assess the client's level of consciousness by asking questions and determining the appropriate response.
6. Determine the client's orientation by response to day, date, time, and place and person.
7. Assess ability to understand and follow one step commands that require a motor response like sticking out tongue or opening and closing eyes.
8. Check sensory function:
    a. Have the client close his/her eyes.

b. Ask the client to voice when dull or sharp sensation is felt by alternate applications of the pointed and blunt ends of a pin to the skin.

9. Assess motor function by observing gait, equality of hand grasps, and equality of leg/foot resistance.
10. Assess pupillary reaction:
    a. Dim room lights.
    b. Have the client look straight ahead.
    c. Move penlight from the side of the client's face and direct the light on the pupil.
    d. Observe pupillary response of both eyes and measure the size in millimeters.
    e. Inspect the eyelids for drooping.
    f. Assess facial symmetry.
    g. Document findings in clinical record.

DOCUMENTATION GUIDELINES

- Baseline documentation should be comprehensive including level of consciousness, orientation, papillary response, motor function and vital signs. Subsequent notes may be brief and reflect changes.
- All findings include the date and time of assessment and name and title of person completing the assessment.

RELATED PROCEDURES

None

MENTAL STATUS ASSESSMENT

A mental status assessment evaluates the client's orientation, memory, use of language, cognitive function, and level of consciousness. A major focus of the evaluation is to identify the client's strength and ability to interact with others in carrying out the home care plan.

PURPOSE

To assess client emotional motor and cognitive function.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Health assessment forms
- Pen and pencil
- Blank sheet of paper
- Mini Mental Exam
- Glasgow Coma Scale

PROCEDURE

1. Assess the client level of consciousness (LOC).
2. Objectively measure LOC (e.g. Glasgow Coma Scale).
3. Screen for dementia and delirium (e.g. Mini Mental State Examination).
4. Have client interpret meaning of proverb such as "people who live in glass houses shouldn't throw stones". Individual with impaired mentation will provide a literal translation or simply repeat the sentence.

DOCUMENTATION GUIDELINES

- Baseline assessment of client’s orientation, memory, use of language and cognitive function
- Client ability to interact with others in carrying out home care plans

RELATED PROCEDURES

Neuro Assessment

MANAGEMENT AND CARE OF THE ORGAN TRANSPLANT CLIENT

Transplantation is the procedure used to transfer living tissue from human to human, animal to human or from one part of the body to another in the same individual. Organs that are commonly transplanted include kidney, heart, lung, liver, bone marrow, skin, cornea, and pancreas.

- Autograft: transplant of client's own tissue.
- Isograft: a transplant of tissue from identical twin.
- Allograft: transplant of tissue from human donor.
- Xenograft: transplant from animal tissue.

Bone marrow transplantation is a treatment option for people with certain kinds of cancer. The client is infused with donor bone marrow or marrow from an identical twin and in some cases they receive their own bone marrow that was harvested prior to receiving intensive chemotherapy.

Transplantation is done in both adults and children, and is used to treat cancer as well as many diseases that cause organ failure. Client receiving transplants are immunocompromised from the disease process and/or the transplant procedure and medications associated with the procedure

PURPOSE

- To identify and decrease the complications associated with transplantation.
- To provide a safe environment for the client who has received a transplant.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

SPECIAL CONSIDERATIONS

The primary concern of the person who has received a transplant is the potential for **organ rejection.** This may OCCUR WITHIN days of the transplant (acute) or from months to years after transplant (chronic). In the acute phase, the client will experience symptoms of rejection such as fever, redness, tenderness at graft site and elevated blood chemistries indicating the changes. In the chronic phase the client will experience symptoms related to the gradual deterioration of the organ.

Graft vs. Host Disease is complication of bone marrow transplantation. This occurs when the grafted tissue recognizes the host cells as foreign and begins to attack the host. Because the host cells are immunocompromised, they cannot destroy the graft cells. This usually occurs

within the first 100 days after transplant and usually affects the skin and gastrointestinal tract with symptoms of abdominal pain, nausea, diarrhea, and a generalized rash that leads to sloughing of the skin.

The transplant client being cared for in the home after transplant will be receiving immunosuppressive medications and will be susceptible to infection. The immunosuppression is not needed if the client has received their own tissue or that of a perfect match (identical twin).

EQUIPMENT/SUPPLIES

Gloves and protective equipment as needed to prevent client exposure

CARE AND MANAGEMENT GUIDELINES

- Instruct family and caregivers on universal precautions and good hand washing. Do not send caregivers to home if they have respiratory infections or other communicable disease.
- Observe for signs and symptoms of infection.
    - Clients who are immunosuppressed will not demonstrate the same signs and symptoms. They may not have an elevated temperature and may not have localized signs of infection if their white blood counts have not returned to normal.
    - Common sites for infections include respiratory, urinary tract, mouth and skin.
- Be alert to changes in appetite, pain, neuro and mental status, fluid status, blood pressure and pulse.
- Monitor medications carefully as many of the immunosuppressive drugs may interact with other medications the client is taking.
- Observe for signs and symptoms of rejection:
    - Flu-like symptoms.
    - Tenderness over graft site.
    - Weight gain.
    - Edema.
    - Fever.

Severity of symptoms is usually indicative of the progression of rejection.
Rejection is reversible and treatable if caught in time. Treatments include increasing doses of immunosuppressants and/or combinations of immunosuppressive therapy. THIS WILL make the individual more susceptible to infection, cardiovascular complications, and impaired wound HEALING AND late effects such as osteoporosis, malignancies and cataracts.

Kidney	Fever, decrease in urine output, elevated blood pressure, weight gain, edema, tenderness at graft site	Contact physician, check BUN & creatinine levels, x-rays to determine progression
Liver	Fever, flu-like symptoms, itching, jaundice, back and abdominal pain	Will need liver function testing, possible biopsy
Heart	Fever, weakness, malaise, symptoms of heart failure. Low blood pressure, peripheral edema, heart murmur or irregular beat	Contact physician for evaluation, notify physician of any changes each time client is seen at home
Lung	Fever, malaise, cough, dyspnea	Check for changes in oxygenation, obtain culture of sputum, assess vital signs
Pancreas	Fever, elevated blood glucose level, tenderness over graft site	Check for signs of elevated blood glucose
Bone Marrow	Fever, nausea, vomiting, changes in blood counts related to reason for transplant. In leukemia and aplastic anemia, marrow stops working and low blood counts, bleeding and infection are indicators.	Check blood counts.

SIDE EFFECTS OF IMMUNOSUPPRESSIVE THERAPY

These will vary and are very much dose related. Adverse effects may include:

Cyclosporine	Tremors, hair growth, hypertension, gum hyperplasia, and toxicity to the liver.
Prednisone	Edema, weight gain, increased appetite, gastrointestinal upset, hypertension, weakness, osteoporosis, cataracts, impaired wound healing, elevated blood sugars and mood swings.
Prograf (Tacrolimus)	Tremors, headache, diarrhea, hypertension, renal DYSFUNCTION, and elevated potassium.
Azathioprine (Imuran)	Leukopenia, thrombocytopenia, infection, liver toxicity, nausea and vomiting.
Mycophenolate (Cellcept)	Diarrhea, leukopenia, nausea, vomiting, low potassium levels and hypertension.
Sirolimus (Rapamune)	Elevated lipid levels, leukopenia and thrombocytopenia.

SPECIAL DOCUMENTATION CONSIDERATIONS

Clients and family members have had extensive preparation pre-transplant and post transplant. They are usually very familiar with the medications they take and the signs and symptoms to be aware of. Documentation should address all signs and symptoms reported as well as baseline. They will have defined follow-up appointments with physicians. Changes should be reported to the primary clinic managing the transplant client.

RELATED PROCEDURES

None

CARE AND MANAGEMENT OF THE CLIENT RECEIVING CHEMOTHERAPY

PURPOSE

- To prepare the client and family to manage common complications and effects of chemotherapy.
- To establish guidelines for client assessment while receiving treatment.
- To provide education that allows client to maintain quality of life during chemotherapy.

PRE-CHEMOTHERAPY ASSESSMENT:

Physical Assessment

- Review past medical history including diagnosis and disease presentation as well as other health conditions and allergies.
- System review to identify current health status.
- Assess for the presence of cancer therapy toxicities: radiation or chemotherapy.

Psychosocial Assessment

- Assess the client and family knowledge of cancer and chemotherapy.
- Review their prior experience with chemotherapy.
- Identify their available support system and significant others.
- Obtain Informed consent if therapy to be provided in the home.

POST CHEMOTHERAPY ASSESSMENT

- Assess for any changes in physical status.
- Identify side effects and establish management guidelines.
- Provide or reinforce education about therapy and side effects.

Cancer chemotherapy is most active against cells that divide frequently such as malignant cells. The drugs cannot differentiate between malignant cell populations and those that are normal. Common toxicities are seen in frequently dividing normal cell populations such as bone marrow, hair follicles, gastrointestinal mucosa, and gonads. Specific drugs toxicities target certain organs such as heart, lung, or nerve and will require specific follow-up and assessment.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

SIDE EFFECTS

Fatigue: This is the most common and the most debilitating response to chemotherapy. It can seriously damage quality of life. Evaluate the impact on the client's life. Ask the client to keep a fatigue diary using a scale of 1-10 and use this to prioritize activities and identify when help is needed Encourage at least 8 hours of sleep per night, rest periods, and try to pace activities.

Bone marrow depression: Bone marrow is an organ that is constantly active, responding to the body's need for white blood cells to protect against infection, red blood cells to carry oxygen to the cells, and platelets to prevent bleeding**.** Chemotherapy interferes with the cell division of frequently dividing cells. Chemotherapy does not affect circulating mature blood cells because they are no longer dividing, but attacks the stem cells that are generating. All blood cells have a fixed life span—6 hours for white cells, 10 days for platelets and 120 days for red blood cells

Neutropenia: Low white counts increase the risk for infection. The longer the duration of the neutropenia, the greater the risk of infection. White cell counts usually fall within a week of receiving treatment.

The goals of care are to maintain intact skin and mucous membranes, eliminate exposure to infectious organisms, promote a well-nourished state, and early diagnosis and intervention. Vital signs should be monitored regularly, and all people that have contact should follow basic infection control practices such as Handwashing and refrain from contact if they are ill. Avoid invasive procedures and avoid eating fresh fruits and vegetables when the white count is very low.

Teach the client signs and symptoms to report that may indicate an infection. The body will not manifest some of the usual signs because of the immunosuppressive effect of the drugs and the absence of white cells to produce inflammation. In some situations, the physician will prescribe injections of neupogen to stimulate the production of white cells and clients can be taught to administer these injections between chemotherapy treatments.

Thrombocytopenia: Low platelet counts can cause bleeding. Assess skin, mucous membranes, urine, and stool for signs of bleeding. When platelet counts are very low the potential for intercranial bleeding is possible. Clients with low platelet counts should be monitored closely for changes in neurological status as well as other obvious signs of bleeding.

Teach the client about ways to decrease risks of bleeding such as using electric razors, soft toothbrushes, avoid injury and do not take medication that may increase risk such as aspirin.

Anemia: Low hemoglobin or red blood cells. This is less common than the lowered white cells and platelets because red blood cells have a longer life span (about 120 days). Anemia due to bone marrow depression will occur later in the course of chemotherapy; however, if there is bleeding related to low platelet counts, anemia may result from that. Certain medications such as Cisplatin are more likely to have an effect on the red cell count and the client will need to be monitored for these symptoms.

Teach the client to report symptoms of dizziness, shortness of breath, fast pulse, increased fatigue, and pallor.

Gastrointestinal reactions: Reactions to chemotherapy can occur anywhere along the gastrointestinal tract from the mouth to the anus. **Nausea and vomiting**, which are very common, occur within hours of treatment and my range from mild to severe. To reduce the severity of nausea and vomiting, anti-emetics are given before chemotherapy and as needed afterward. Severe and prolonged symptoms may lead to dehydration and electrolyte imbalance and reduce client's ability to cope and their quality of life.

Teach the client to assess tolerance of food, fluids, smells and food preferences. Weigh client weekly or instruct them to keep record of weight and report significant changes. Teach signs and symptoms of dehydration such as dry mouth, increased thirst, decreased urine output or dark and concentrated urine. Instruct client to notify physician if medications for nausea do not control the symptoms and to report vomiting more than three times per day.

Mucositis: The inflammation of the mucous membranes can occur all along the GI tract, but the condition of the client's mouth is often indicative of the integrity of other areas. Painful mouth ulcers (stomatitis) that may cause bleeding can develop after chemotherapy and may persist. If this happens, the sores serve as a portal for infection. The sores in the mouth may cause difficulty chewing and swallowing. Observe closely for infection, encourage frequent mouth care, pain medications, and work with the client to control the symptoms.

Early detection and treatment is important. Teach the client to rinse mouth with a saline or bicarbonate solution after meals and at bedtime. If bleeding occurs encourage the use of sponges to cleanse the mouth rather than tooth brushes. Encourage bland soft foods and fluids. Avoid alcohol and glycerin based mouthwashes, lemon and glycerin swabs, and hydrogen peroxide which promote fungal growth and harm healing tissue.

Constipation: Can happen as a result of decreased activity, pain medication, and other chemotherapy agents that may decrease peristalsis. Clients receiving these drugs should be taking stool softeners.

Teach the client about high fiber diet, increasing fluid intake and to increase physical activity as tolerated.

Diarrhea: Occurs when the chemotherapy has destroyed the epithelial cells in the bowel and food passes through the GI tract more rapidly than normal. Nutrients and fluids are not absorbed normally and this can lead to fluid and electrolyte imbalance. Diet should be low residue and lactose free. Teach the client to apply a protective skin barrier to area around the rectum. Cultures should be done to rule out infections.

Potential complications of diarrhea include malnutrition, fluid and electrolyte imbalance, abdominal discomfort, skin irritation, activity intolerance and fatigue. Treatment is focused on controlling the diarrhea and maintaining hydration and electrolyte balance.

Alopecia: Many cancer drugs cause hair loss within weeks of starting the treatment. The drugs damage hair follicles, weaken hair, and interrupt hair growth. In most cases the hair grows back after the treatments are ended. Even when hair loss does not occur, the drugs may cause hair damage.

Teach the client to avoid hair coloring and permanents during this time and to avoid exposure to the sun. The loss of hair is often very distressing to the client. Encourage the client to purchase caps, turbans, or wigs as desired.

Skin changes: Chemotherapy drugs may cause a change in the color of the skin. The hyperpigmentation is more common in black clients. This may occur over the hand joints and the tongue and mucous membranes. Some drugs given intravenously through a peripheral catheter can cause darkening of the veins used for the infusion.

Other skin changes may include itching, infection, or dry and sloughing skin. Certain drugs may also cause changes in the nails including ridges and grooves. Teach the client to reduce or eliminate sun exposure by using sunscreens and wearing long sleeves and long pants. Keep nails cut short and avoid scratching the skin. Use moisturizer lotions that contain a topical hydrocortisone or diphenhydramine for comfort.

Special precautions should be taken when giving chemotherapy drugs intravenously to insure the vein is patent and there are no signs of extravasation.

Reproductive dysfunction: Many common chemotherapy drugs can interfere with the client's reproductive or sexual functioning. Pre-menopausal women may stop having periods and become infertile. (Women under age 35 are more likely to regain fertility after chemotherapy). Men may experience decreased libido, interruption in sperm formation and production, impotence and ejaculation problems.

Teach clients that an alteration in sexual functioning is a normal reaction to chemotherapy. Encourage clients and their partners to express feelings and concerns to each other and explore possible solutions. Because chemotherapy drugs may cause teratogenic effects, clients and their partners must practice birth control after the completion of therapy per their physician instructions.

If the chemotherapy is to be administered in the home intravenously, the nurse administering the drugs must be trained in chemotherapy administration. Procedures would follow protocols directed by the physician. The home care provider would ensure that the appropriate equipment and supplies are present in the home and that spill kits and sharps containers are available in the home setting. If blood product administration is required, follow the procedures in the Intravenous Section of this manual.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Clinical findings on physical examination.
- Evidence of side effects or complications and actions taken.
- Medications or treatments administered.
- Teaching provided and client response to the teaching.
- Any changes from previous visit—observed or reported.
- Information communicated to physician or other members of health care team.

RELATED PROCEDURES

None

CARE OF THE CLIENT WITH JOINT REPLACEMENT

PURPOSE

Today advanced techniques and technologies have revolutionized joint replacement surgery. The most common joint replacements are knee and hip, but the procedure is also available for shoulder, ankle and wrist.

Knee replacement surgery is really a cartilage replacement. The knee itself is not replaced, only the damaged cartilage and bone ends. More than 600,000 knee replacement procedures are completed annually in the United States. The procedure can now be done using a minimally invasive surgical technique that reduces the surgical incision from six to eight inches in length to three or four inches. It also reduces the extent of disruption to the soft tissue surrounding the knee which increases healing time and decreases pain.

Hip replacement surgery removes the arthritic ball of the upper femur as well as the damaged bone and cartilage from the hip socket. The damaged bone and cartilage are replaced with implants made from materials including metal alloys, polyethylene (plastic) or ceramic. The implants are designed to create a new, smoothly functioning joint that replaces painful bone on bone contact.

KNEE REPLACEMENT

The knee is the largest joint in the body. It is the hinge joint of the leg and the joint that allows the leg to bend and straighten. The knee joint is located at the meeting point of the thigh bone (femur) and the shin bone (tibia). The knee cap (patella) covers the area where the bones meet.

During a total knee replacement surgery, the damaged part of the knee is removed from the end of the thigh bone, the top of the leg bone, and the underside of the knee cap. Most major ligaments and tendons of the knee are left in place so that the knee can bend, straighten, and remain steady in position from front to back and side to side.

The procedure can now be done using a minimally invasive surgical technique that reduces the surgical incision from six to eight inches in length to three or four inches. It also reduces the extent of disruption to the soft tissue surrounding the knee, which increases healing time and decreases pain.

HIP REPLACEMENT

The hip joint helps us keep our balance and supports our weight in all movements. The upper end of the leg bone (femur) has a rounded head (femoral head) that fits into a socket (acetabulum) in the pelvis to form the hip joint.

During total hip replacement surgery, the damaged part of the hip is removed and replaced with implants.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses

- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

None

GUIDELINES

- Need to maintain joint alignment and exercise to improve function and range of motion in the new joint.
- Clients will be on long term anticoagulant therapy.
- Antibiotics prophylaxis is required prior to all dental visits.
- Infections that could affect the prosthesis could lead to removal of the joint.

CARE OF THE CLIENT

1. Hip replacement:
    a. Need to sit in a straight back chair with arms, never in a reclined chair.
    b. Client should sit on surfaces that are at least 21 inches high.
    c. Client should have a raised toilet seat.
    d. Do not step in and out of a bathtub. (May sit on transfer bench if approved by surgeon or stand in a shower.)
    e. Client cannot reach past his/her knees so will need assistance or adaptive equipment for ADLs/IADL.
    f. Extremes of internal rotation, adduction and 90-degree flexion must be avoided
    for 4 to 6 weeks.
    g. No bending or flexing more than 90 degrees.
    h. Do not pivot or twist the operated leg.
    i. Do no cross operated leg or ankle.
    j. No driving a car for 6 weeks.
    k. Teach client about use of anticoagulant therapy.
    l. Teach client signs and symptoms to report: pain, fever, drainage or dislocation.
2. Incision care:
    a. Keep the incision dry.
    b. Usually covered with light dressing until staples are removed in 10-14 days.
    c. Notify surgeon if there is increased drainage, redness, pain, odor or heat around the incision.
    d. Monitor client's temperature and report if over 100.5°F.

e. Change the dressing only if ordered by the surgeon:
   - Wash hands.
   - Open dressing change materials (ABD pad, 4 x 4, betadine swabs).
   - Remove old dressing.
   - Inspect incision for increased redness, increase in clear drainage, yellow/green drainage, odor and increased temperature of surrounding skin.
   - Cleanse incision using betadine swabs.
   - Place dry dressing over incision and tape dressing in place.

3. Body changes:
   a. Appetite may be poor. Drink plenty of fluids to maintain hydration.
   b. May have difficulty sleeping because of impaired ability to turn in bed or sleep in preferred position.
   c. Energy level will be decreased for the first few weeks.
4. Medications:
   a. Pain medications will be used to control pain. These medications may cause constipation so instruct to use stool softeners or laxatives as necessary.
   b. Blood thinners may be given to avoid blood clots in the legs. Follow physician instruction on prescribed medications.
   c. Ted stockings will be ordered to help prevent swelling and the risk of blood clots in the legs. Stockings may be removed one to two times a day for short periods, but otherwise wear continuously.
   d. Notify physician if client reports increased swelling or pain in the legs.
5. Pain management:
   a. Instruct client to take pain medication 30 minutes before therapy visit.
   b. Instruct client to change position every 30 to 45 minutes throughout the day.
   c. Use ice for pain control. Applying ice to the affected joint will decrease discomfort. Use for 20 minutes each hour. Use before and after exercises.
6. Home safety and avoiding falls:
   a. Pick up throw rugs and tack down loose carpeting.
   b. Place regularly used items such as medications, reading materials in easy-to-reach places.
   c. Widen furniture paths to accommodate walker or cane.
   d. Place frequently used items such as cooking supplies where they can be reached without stretching or bending.

e. Do not lift heavy items for the first three months or until surgeon approves.

7. Knee replacement:
   a. Client begins using CPM machine on the first day to promote early joint mobility.
   b. Progress to straight leg raises and gentle range of motion to increase strength
      and obtain 90-degree knee flexion.
   c. Do not pivot or twist the leg with replacement.
   d. Do not kneel or squat.
   e. Wear knee immobilizer for 4 weeks.
   f. Teach about anticoagulant therapy.
   g. Teach signs and symptoms of infection (fever, pain, increased drainage, redness or edema).
   h. Follow pain management as stated above.
8. Knee replacement:
   a. Client begins using CPM machine on the first day to promote early joint mobility.
   b. Progress to straight leg raises and gentle range of motion to increase strength
      and obtain 90-degree knee flexion.
   c. Do not pivot or twist the leg with replacement.
   d. Do not kneel or squat.
   e. Wear knee immobilizer for 4 weeks.
   f. Teach about anticoagulant therapy.
   g. Teach signs and symptoms of infection (fever, pain, increased drainage, redness or edema).
   h. Follow pain management as stated above.

RELATED PROCEDURES

None

CONTINUOUS PASSIVE MOTION (CPM)

The continuous passive motion machine exercises various joints such as the hip, ankle, knee, shoulder and wrist. The machine is most commonly used after knee surgery. The purpose of the CPM machine is to help achieve and maintain good motion after knee replacement surgery. Not all surgeons require the use of the machine after hospitalization.

The machine will move the knee through a range of motion without the client needing to use his or her muscles to move the leg. Most common protocol is to have the machine start with a predefined amount of knee flexion, then increase the amount on a daily basis.

PURPOSE

- To increase range of motion in knee following knee replacement surgery.
- To maintain maximum mobility of extremity.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

Continuous passive motion machine

Tape measure

Padding for the device

PROCEDURE

1. Verify client identity.
2. Offer pain medication before procedure if needed.
3. Gather equipment and supplies.
4. Explain the procedure to the client.
5. Wash hands.
6. Check orders for flexion and extension (usually 10- to 45-degree flexion and 0-10 extension).
7. Assess the color, motion, and sensation in the extremity.
8. Check for presence of pulses.
9. Assess level of pain and/or discomfort.
10. Set speed to slow-moderate and adjust for client comfort and ability.

11. Place sheepskin on the machine.
12. Measure the distance between the gluteal crease and the popliteal space.
13. Measure the length of client's le between the knee to ¼ inch beyond the bottom of the foot.
14. Adjust machine to the client extremity.
15. Center extremity on frame.
16. Align joints with machine joints.
17. Secure extremity with straps.
18. Start the machine: when reaches fully flexed position, stop machine and check degree of flexion.
19. Start machine again and set cycle rate 2-10 per minute.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Rate cycles per minute.
- Degree of flexion and extension.
- Condition of extremity condition of skin.
- Time of CPM usage.
- Client tolerance of procedure.
- Any pertinent observations.
- Teaching done.

RELATED PROCEDURES

None

CAST CARE

There are two types of casts; plaster cast and fiberglass or synthetic cast. Plaster cast must be kept dry – if it becomes wet, the moisture will weaken or even destroy it. If it gets a little wet, let it dry naturally.

Fiberglass cast – follow physician orders for whether client is allowed to take a shower. To dry the cast, wrap the cast in a towel, then prop on a pad of towels to absorb moisture. It will dry in 3 to 4 hours.

PURPOSE

- To prevent neurological and vascular impairment of areas enclosed by cast.
- To maintain cast for immobilization of affected area.
- To prevent infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Washcloth and towel
- Soap and water
- Tape (1-inch or 2-inch)
- Pen
- Pillows
- Sterile gloves

ASSESSMENT AREAS

- Physician orders for treated area
- Pain and/or discomfort
- Skin condition
- Color, temperature, capillary refill, sensation, pulse, movement
- Signs/symptoms of infection

PROCEDURE

1. Verify client identity.
2. Gather equipment.
3. Wash hands. Refer to Hand Washing Procedure.
4. Explain procedure to the client.
5. Put on gloves.

6. Hold casted extremity or body area with palms of hands until cast is fully dry.
7. Elevate extremity on pillows covered with linen savers or plastic bags.
8. Wash skin removing antimicrobial agents such as povidone, rinse and dry.
9. Instruct client and/or family on procedure for observation of skin and neurovascular assessment.
    a. Check for numbness, tingling, or pain by touching the area above and below the cast.
    b. Have client wiggle fingers or toes on affected extremity.
    c. Observe color of fingers/toes.
    d. Press a fingernail or toenail of casted limb until the color fades. Then let go. The normal color should reappear within 3 seconds. If fingers or toes are cold to touch, cover and assess if temperature changes.
    e. Notify physician if changes in color, sensation, or temperature that does not return to normal.
    f. If bleeding noted on the cast, circle the area and write the date and time on the cast.
10. Assess for signs of infection under the cast by observing smell and monitoring vital signs.
11. Instruct client/family on repositioning frequently (at least every 2 hours.)
12. If flaking of the cast around the edges is present, remove flakes, pull the stockinet over cast edges and tape down.
13. Use fracture pan for elimination for clients with good bowel and bladder control.
14. If potential for incontinence, place a plastic lining on cast edges and change as needed.
15. Instruct client/family on range of motion exercises unless contraindicated.
16. Discard used equipment and supplies.
17. Remove gloves and wash hands. Refer to Hand Washing Procedure.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Assessment findings including indications of infection.
- Complications of immobility.
- Skin condition: color, movement and sensation in affected area.
- Repositioning.
- Teaching completed and additional teaching needed.
- Document the client caregiver response to teaching and demonstration of learning.

RELATED PROCEDURES

None

CARE OF THE CLIENT IN TRACTION

Traction is the use of a pulling force to treat muscle and skeleton disorders. Traction is usually applied to the arms and legs, the neck, spine or the pelvis. Used to treat fractures, dislocations and long duration muscle spasms and to prevent or control deformities.

PURPOSE

- Aligns the ends of a fracture by pulling the limb into a straight position.
- Ends muscle spasms.
- Relieves pain.
- Takes the pressure off the bone ends by relaxing the muscle.
- To maintain the established line of pull.
- To prevent friction to the skin.
- To maintain counter-traction.
- To maintain continuous traction unless otherwise ordered.
- To maintain correct body alignment.

Two types of traction: skin traction and skeletal traction. Within these types, many specialized forms of traction have been developed.

Skin traction: Uses 5- to 7-pound weights attached to the skin to indirectly apply the necessary pulling force on the bone. If traction is temporary, or if only a light or discontinuous force is needed, this is the preferred treatment. Weights are attached with straps, boots, tape or cuffs. Care is taken to keep the straps loose enough to prevent swelling and maintain circulation. Specialized forms of skin traction have been developed to address specific problems.

Dunlop's traction is used on children with certain fractures of the upper arm when the arm must be kept in a flexed position.

Pelvic traction is applied to the lower spine with a belt around the waist.

Skeletal traction: Skeletal traction is performed when more pulling force is needed than can be provided with skin traction or when the part of the body needing traction is positioned so that skin traction is impossible. Skeletal traction uses weights of 25 –40 pounds.

This type requires the placement of tongs, pins, or screws into the bone so the weight is applied directly to the bone. This would not be initiated in the home.

Buck's extension: Used in hospitals to immobilize hip fractures until surgery can be performed. Used in home care to reduce muscle spasms, contractures, and dislocation and as interim treatment for lumbosacral muscle spasms that cause low back pain.

Pelvic sling: The sling cradles the pelvis for treatment of one or more fractures to the pelvic bones.

Russell's traction: Modification of Buck's extension doubling the amount of pull through the arrangement of ropes, pulleys, and weights.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Ropes (nylon), pulleys, and weights (varying from 1 to 5 pounds)
- Bed frame for attachment of traction or portable bed frame
- Adhesive backed moleskin
- Ace bandages
- Heel and elbow protectors if indicated
- Specific slings or belts as indicated by type of traction

CARE GUIDELINES

- Assess general health status including mobility and medical conditions that may predispose to complications such as peripheral vascular disease and peripheral neuropathy.
- Assess condition of skin on specific areas to be affected by traction. Traction should not be placed over irritated or broken skin.
- When in traction, assess skin areas at risk for skin breakdown.
- Assess level of pain.
- Assess neurovascular status.
- Position for comfort and effectiveness – assure that weights are hanging freely.
- Release skin traction every 4 to 8 hours to assess skin and wash, dry and lubricate skin. Traction may not be released if it is immobilizing a fracture.
- Administer pain medications and muscle relaxants per physician order and client need.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Record assessment of skin and nursing interventions.
- Record neurological assessment and color motion and sensation of extremities.
- Time in and out of traction.
- Type of traction and weights used.
- Client response to treatment.

RELATED PROCEDURES

None

USE OF A HOYER/HYDRAULIC LIFT*

Using a hydraulic lift to transfer the immobile client to the sitting position permits a safe comfortable transfer. It is indicated for the obese or immobile client for whom manual transfer poses the potential for client and/or caregiver injury.

The lift has two parts: one is the sling that is put under the client to support them; the second is the lift that, when attached, lifts the sling with the client. All caregivers who will use the lift MUST be trained before using it.

PURPOSE

To safely transfer clients who are unable to assist the caregiver or when moving the client without the lift would place the client and/or caregiver at risk of injury.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Hoyer/Hydraulic lift* (should include the base, mat or sling, and straps)

*The use of a specific brand name is intended to function as an example.
It should not be mistaken as any kind of product endorsement.

PROCEDURE

1. Verify client identity per agency policy.
2. Wash hands. Refer to Hand Washing Procedure.
3. Explain the procedure to the client.
4. Place chair on side of bed and lock wheels, if using a wheelchair.
5. Place the client on the mat or sling by having the client roll to one side and placing the mat under client from shoulders to mid-thigh, then roll client to other side and position on the mat. Place canvas hammock or sling under the client's center of gravity and greatest portion of body weight. If the hammock seat is used, the hooks should face away from the client's skin.
6. Roll the base of the HOYER lift under the side of bed nearest to the chair. Open the base of the lift to widest point and lock wheels on lift.
7. Release the hydraulic valve to lower the bars to sling level, then close valve.
8. Attach chains or straps to holes in the sling. Short chains hook to top holes of sling; longer chains hook to bottom holes of sling.

9. Have the client fold arms over chest.
10. Most of the lifts used in the home have electric motors and batteries that can be charged, so it is not necessary to plug the machine in to use it.
11. Using the jack handle, pump the jack enough for the mat to clear the bed about 6 inches and tighten the release valve.
12. Determine if client is fully supported and can maintain head support.
13. Unlock wheels and pull the lift straight back and away from the bed.
14. Move toward the chair with open end of the lift base straddling chair.
15. Lock wheels on lift.
16. Slowly lower client into chair until the hooks are slightly loosened.
17. Remove hooks and move lift away. Remove mat if able.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure completed and indication for use of HOYER.
- Client tolerance of procedure.
- Teaching done on use of equipment and safety factors.

RELATED PROCEDURES

None

RANGE OF MOTION EXERCISES

PURPOSE

- To maintain present level of function and mobility of extremity involved.
- To prevent contractures and shortening of musculoskeletal structures.
- To prevent complications of immobility.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

None

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Place the client in a supine (on back) position.
3. Range of motion exercises may be performed by:
    a. Client without assistance: active.
    b. Client with assistance: assistant active.
    c. Clinician or caregiver with no assistance from the client: passive.
    d. Client using resistance to work against clinician: resistive.
4. Perform the movements slowly and smoothly. A joint should be moved only to the point of resistance, pain or spasm, whichever comes first.
5. Apply a firm, but comfortable grip on the limbs above and below the joint.
6. Use a cradle position.
7. Perform each exercise 3 to 10 times.
8. Observe for signs of exertion or discomfort.

DOCUMENTATION GUIDELINES

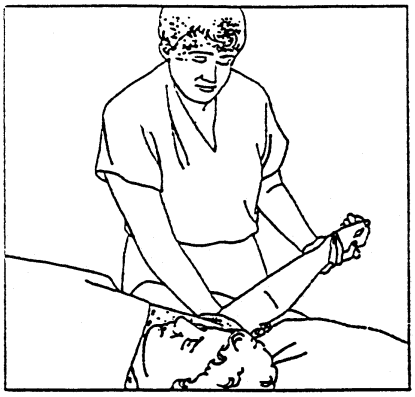
Document in the clinical record:

- Where range of motion exercise performed.
- Areas of limited range and degree of limitation.
- Areas of passive versus active range of motion.
- Reports of pain or discomfort.

RELATED PROCEDURES

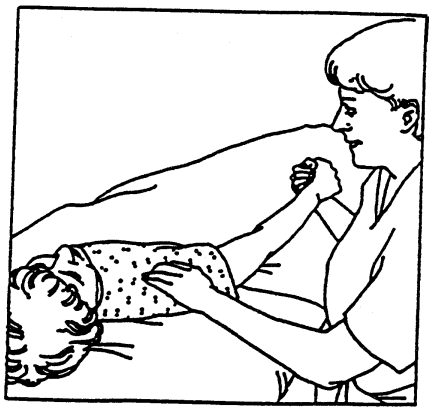
None

RANGE OF MOTION

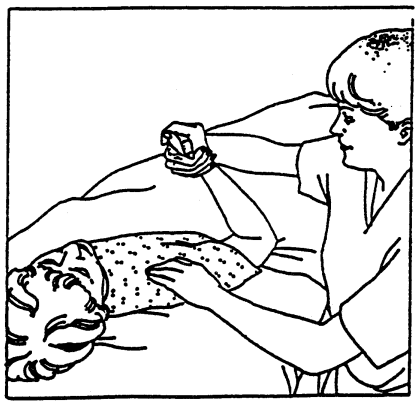


ABDUCTION

ADDUCTION



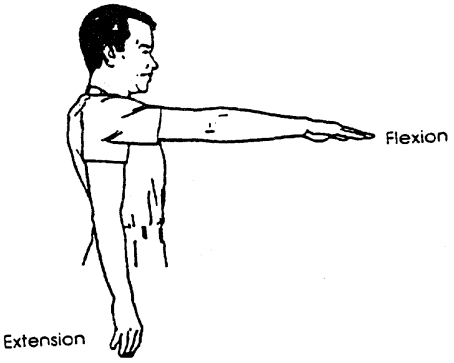
EXTENTION

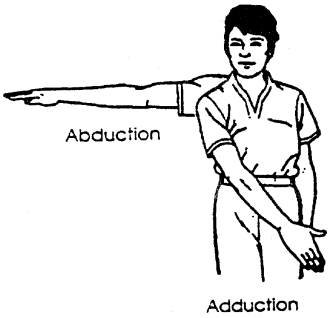


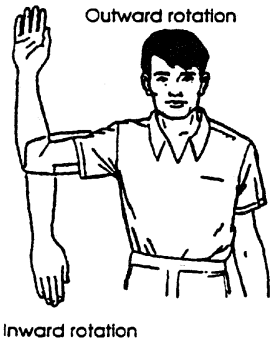
FLEXION

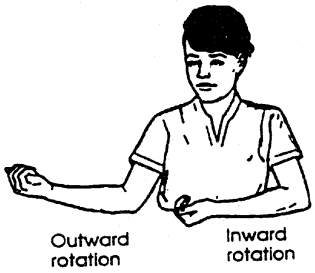
RANGE OF MOTION

SHOULDER - ACTIVE:



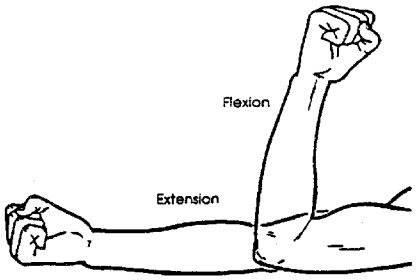




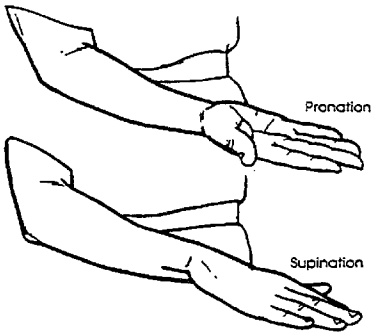


RANGE OF MOTION

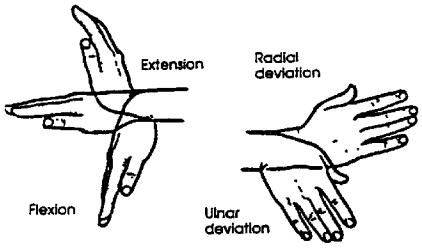
ELBOW



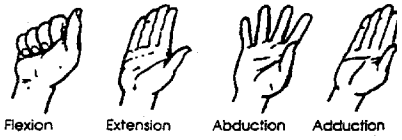
FOREARM ROTATION



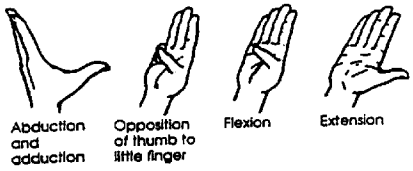
WRIST



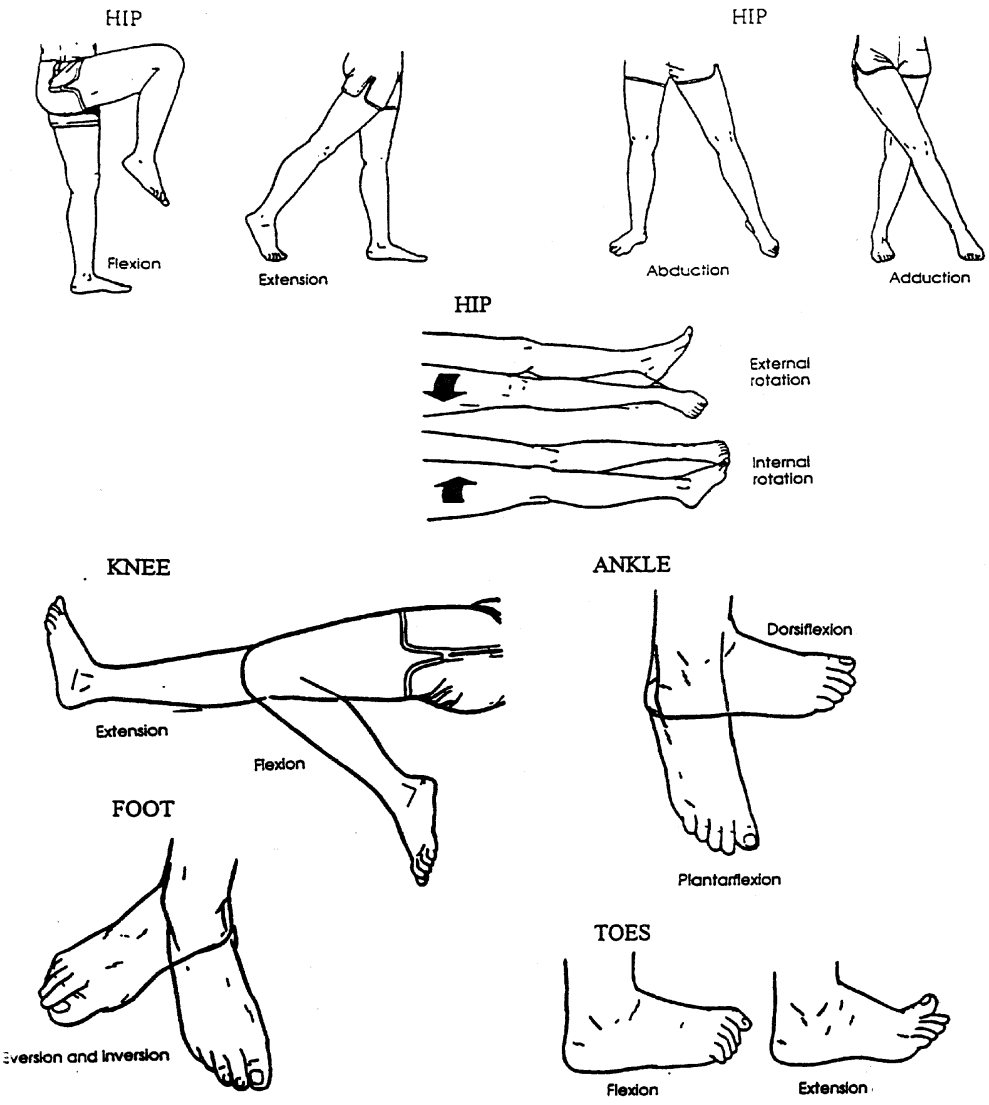
FINGERS



THUMB



RANGE OF MOTION



STANDARD INFECTION CONTROL PROCEDURES FOR HOME CARE

Standard precautions were developed by the Centers for Disease Control and Prevention to provide the widest possible protection against transmission of infection. Standard Precautions include many of the isolation precautions previously recommended by the CDC for clients with known or suspected blood-borne pathogens as well as the precautions previously known as body substance isolation. They are to be used in conjunction with other transmission based precautions including airborne and contact precautions.

PURPOSE

- To provide protection against the transmission of infection.
- To comply with guidelines of OSHA and CDC in creating a safe environment for all health care workers and other caregivers in the home setting.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Gloves
- Masks
- Protective eyewear
- Face shields
- Gowns/Aprons/Lab coats
- Household bleach or EPA-registered tuberculocidal disinfectant or EPA-registered disinfectant labeled effective against hepatitis and HIV
- Leak-proof containers for specimen
- Biohazard stickers
- Sharps container

PROCEDURE

1. Wash hands before and after client care and after removing gloves. Refer to Hand Washing Procedure. Gloves should be worn for any known or anticipated contact with blood, body fluids, tissue, mucous membrane and non-intact skin. Change gloves and wash hands between client contacts.
2. Wear a fluid resistant gown or apron and glasses, goggles, and/or mask during procedures that are likely to generate splashing of body fluids.

3. Carefully manage all needles and other sharp instruments. Don't bend, break, or remove needles from syringes. Discard them intact immediately after use into a puncture resistant container. Use tools to pick up broken glass or other sharp objects.
4. Notify employer/supervisor of all needle stick or other sharp object injuries, splashes, or contamination of open wounds or non-intact skin with blood or body fluids.
5. Label all specimens collected from clients and place them in plastic bags at the collection site. Attach request slips to the outside of the bag\place all items that have come in direct contact with client secretions, excretions, blood, drainage, or body fluids in a single bag or container before removing.
6. Promptly clean all blood and body fluid spills with detergent and water followed by
   an EPA-registered tuberculocidal disinfectant or diluted bleach solution between 1:10 to 1:100 mixed daily or an EPA-registered disinfectant labeled effective against HBV and HIV.
7. Employees with exudative lesions should avoid all contact with clients until the condition has resolved and the employee has been cleared to return to work by their physician.
8. Employees who have dermatitis or other skin conditions that result in broken skin should not have contact with blood or body fluids even if wearing gloves.
9. Failure to follow the standard precautions may lead to exposure to blood borne diseases or other infections and any complications this may cause.
10. Use barrier precautions when contact with blood/body fluids is anticipated, including all invasive procedures.
11. Disposal of biohazardous waste:
    a. Identify all items that meet the definition of biohazardous waste.
    b. Safely and appropriately package, transport and dispose of these items.
    c. Explain disposal procedures and regulatory requirements to clients and families to avoid misunderstandings.
    d. Know the policy of the agency and the laws of the state.
    e. Clean the blood spills promptly. First, PUT ON gloves. Then, use paper towels to soak spill. Clean with detergent followed by household bleach solution.
    f. Place sharps and needles in puncture-resistant containers. Remove containers when three-fourths full and dispose according to the Agency Waste Disposal Policy.
    g. Syringes with needles attached must be placed in needle boxes. Syringes without needs may be placed in the regular trash, provided they are emptied fluids.

h. IV bags/tubing should be emptied of all fluid and placed in the regular trash. Needles must be removed or cut off and placed in a sharps container.

i. Containers (i.e., Foley bags, suction canisters, etc) and their tubing should be emptied and rinsed before being discarded in the regular trash.

j. Dressings that are soiled with blood or drainage should be placed in an approved biohazardous waste container.

k. Sterile or clean supplies left in the home should be stored in a clean area that is used for supplies only. Cover supplies with plastic or a towel.

12. **Handling and transporting specimens:**

a. All specimens will be collected in leak-proof containers appropriate for the specimen.

b. Containers with specimens will be transported either by placing them in a carrier
or a sealed plastic bag. Specimens should be transported without needles attached to syringes.

c. The outside of the container is to be labeled with a color-coded biohazard sticker.

d. Contaminated, reusable sharps should be placed in a leak-proof, puncture-resistant, and appropriately labeled container.

***Note:** Insect or rodent infestation may be an obstacle to infection control in the home. If the client does not have adequate resources to eliminate these pests, the agency can contact the public health department and other government agencies for advice and assistance.

RELATED PROCEDURES

None

ASEPTIC TECHNIQUE IN THE HOME

PURPOSE

To prevent the introduction of microorganisms onto a designated field.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Gloves
- Masks
- Face shields
- Gowns/aprons
- Sterile basin
- Sterile supplies as needed for necessary treatment/procedure

SPECIAL CONSIDERATIONS

- Variations in technique may be used in performing procedures in the home as long as use of aseptic principals governs actions during the procedures.
- Pets should be restricted from the room while a sterile procedure is being performed.

PROCEDURE

1. Wash hands per agency policy. Refer to Hand Washing Procedure.
2. Create a sterile field and arrange sterile supplies.
3. Never use opened items or items that have questionable sterility.
4. Open sterile items and use inside of wrapping to create a sterile field.
5. Drop sterile items onto field, use sterile tongs or forceps to remove items from package without contamination.
6. Put on sterile gown, gloves and mask.
7. Use sterile drapes to decrease exposure to non-sterile areas.
8. Have an assistant pour liquids into sterile basin or containers.
9. As procedure is performed, remove soiled equipment from area and drop trash in bag.
10. When procedure is completed, remove protective equipment.
11. Wash hands, Refer to Hand Washing Procedure.

12. Document procedure.

DOCUMENTATION GUIDELINES

- General client assessment – including vital signs and pertinent laboratory data
- Procedure performed
- Equipment used
- Client tolerance of procedure

RELATED PROCEDURES

None

NURSING BAG

PURPOSE

- To carry adequate supplies for home care clients.
- To maintain supplies in clean environment.
- To prevent contamination of the nursing bag.
- To protect clients, family members, and health care workers from the spread of infection.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Keep paper towels, handwashing soap and waterless handwashing solution in the outside pocket of the bag.
- Carry items that may be needed unexpectedly or are used frequently for many clients. These may include:
    - Sterile gauze pads
    - Venipuncture supplies
    - Tape
    - Syringes
    - Blood pressure cuff
    - Stethoscope
    - Gloves
    - Alcohol wipes and antiseptic solutions
    - Dressing supplies as needed
    - Catheter supplies as needed

GUIDELINES

The inside of the bag and its contents are considered clean. Therefore:

- Hand washing must occur before entering the bag for any reason.
- All items removed from the bag should be cleaned before returning to the bag.
- Check and restock the bag at regular intervals to assure appropriate and current supplies are available.
- Documentation should include the supplies used and charge slips completed as needed.
- Supplies for a specific client should be carried separate from the nurse's stock supply.

- When in a client's home, place a waterproof disposable barrier on a clean and dry surface then place the bag down on the barrier. If there is no suitable place in the home, take only those items into the home that are needed for the visit.

SPECIAL CONSIDERATIONS

- When a client is known to be infected with or colonized with multiple drug-resistant organisms (MRSA,VRE) or C. difficile, or is on contact precautions, disposable single-client-use supplies may be purchased and left in the home for staff use during episode of care. As an alternative, the noncritical client care equipment can be left in the home and returned to the agency when client is discharged.
- Supplies carried in the nurse's bag and kept in the car are subject to extremes of temperature. This exposure may cause deterioration. Examples include urinary catheters, hydrocolloid dressings and vacuum tubes used for blood collection.
- All nurses should carry a supply of plastic bags for disposal of used supplies that are not considered biohazardous waste and to use for the transport of specimens.
- Additional supplies may be carried in the car. Supplies should be placed in plastic containers with lids and labeled.
- Check all supplies on a regular basis to assure they are not outdated or contaminated.
- Check agency policies related to the management of supplies
- Care of the nursing bag:
    - Daily: Replace all used equipment and supplies.
    - Quarterly: Remove all articles. Wash the outside of the bag and the inner lining with soap and water. Dry thoroughly. Replace articles.

DOCUMENTATION GUIDELINES

None

RELATED PROCEDURES

None

HAND HYGIENE

- Hand hygiene is a general term that applies to either hand washing, antiseptic hand wash, alcohol-based hand rub, or surgical hand hygiene/antisepsis.
- Hand washing refers to washing hands with plain soap and water. This is a sensible strategy for hand hygiene in a non-health care setting and is recommended by the CDC.
- Antiseptic hand wash refers to washing hands with water and soap or other detergents containing an antiseptic agent.
- Alcohol-based hand rub refers to the alcohol-containing preparation applied to the hands to reduce the number of viable microorganisms.
- Surgical hand hygiene antisepsis refers to an antiseptic hand wash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient and reduce resident hand flora. Antiseptic detergent preparations of have persistent antimicrobial activity.
- Recommended hand hygiene practices will promote client safety and prevent infections.
- Alcohol-based hand rubs provide several advantages compared with handwashing with soap and water because:
    - They require less time and act faster.
    - They are more effective for standard handwashing than soap.
    - Are more accessible than sinks.
    - Are the most efficacious agents for reducing the number of bacteria on the hands of healthcare workers.
    - Can improve skin conditions.

Source: "Hand Hygiene in Healthcare Settings" from the CDC. Target audience: Acute care hospital workers.

HAND WASHING

PURPOSE

- To prevent the spread of infection by contaminated hands.
- To remove soil and transient organisms from the hands and to reduce total microbial counts over time.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Soap
- Paper towels
- Water

***Note:** The need for hand washing depends on the type, intensity, duration, and sequence of activities. The Center for Disease Control (CDC) recommends routinely washing hands in the following situations:

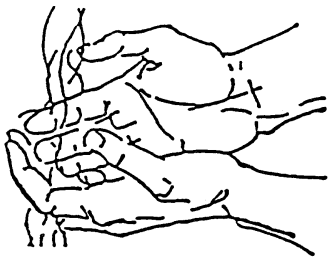
- Before contact with clients who are susceptible to infection (such as newborns or immunosuppressed clients.)
- After caring for a client.
- Before touching organic material.
- Before performing invasive procedures such as catheterization and suctioning.
- Before and after handling dressings or touching open wounds.
- After handling contaminated equipment.
- Between contact with different clients.
- The CDC and Public Health Service note that washing times of at least 10 to 15 seconds will remove most transient microorganisms from the skin. If hands are visibly soiled, more time may be needed.
- The frequency of washing also affects the type and number of bacteria on the hands. One study found that nurses who washed their hands eight times a day were less likely to carry gram-negative bacteria on their hands.

PROCEDURE

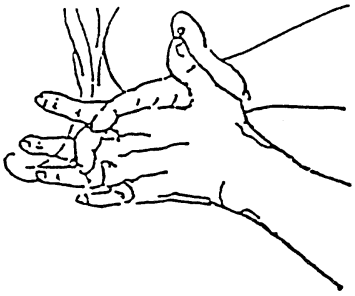
1. Use an easy-to-reach sink with warm, running water, soap or disinfectant, and paper towels.
2. Push wristwatch and sleeves above your wrists. If wearing rings, remove during washing.

3. Keep fingernails short and filed.
4. Inspect surface of hands and fingers for breaks or cuts in skin and cuticle.
5. Stand in front of sink, keeping hands and clothing away from sink surface.
6. Turn on water faucet by covering it with paper towel.
7. Avoid splashing water against clothing.
8. Regulate flow of water so that temperature is warm.
9. Wet hands and lower arms thoroughly under running water. Keep hands and forearms lower than elbows during washing.
10. Apply soap to hand, lathering thoroughly.
11. Wash hands, using plenty of lather and friction for at least 10 to 15 seconds. Interlace fingers and rub palms and back of hands with circular motion at least five times each.
12. If areas underlying fingernails are soiled, clean them with fingernails of other hand and additional soap or clean orangewood stick. Avoid tearing or cutting skin under or around nail.
13. Rinse hands and wrists thoroughly, keeping hands down and elbows up.
14. Dry hands thoroughly from fingers to wrists and forearms.
15. Discard paper towel in waste receptacle.
16. Turn off water faucet using a clean, dry paper towel.

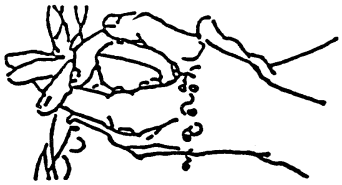
HAND WASHING DEMONSTRATION



START WITH WARM WATER



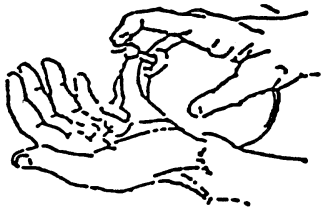
RINSE THOROUGHLY



USE LIQUID OR BAR SOAP

DRY WITH CLEAN PAPER TOWEL

SCRUB FOR AT LEAST 30 SECONDS



USE LOTION IF DESIRED

RELATED PROCEDURES

None

INFECTION CONTROL

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

SPECIAL CONSIDERATIONS

Standard precautions apply to blood and other potentially infectious fluids including:

- Semen and vaginal secretions.
- Cerebrospinal fluid, synovial, pleural, pericardial, peritoneal and amniotic fluids.
- Saliva.
- Body fluids (feces, urine, sputum, vomitus) that are visibly contaminated with blood.
- Body fluids in situations where it is difficult to differentiate between body fluids.
- Unfixed tissue or organ from living or dead.

REQUIRED INFECTION PROCEDURES

1. PE: gloves, mask, gowns, eyewear.
2. Remove gloves and wash hands after each contact. Refer to the Hand Washing procedure.
3. Take precautions with sharps.
4. Educate staff and family/caregivers.
5. Disinfect equipment and discard non disposables.

DOCUMENTATION GUIDELINES

None

RELATED PROCEDURES

None

BREAST SELF-EXAMINATION

PURPOSE

- To teach clients to perform breast exams on a regular basis.
- To establish a baseline for look and feel of breasts.
- To detect changes in breast and identify breast cancers in early stages (either individual or professional doing exam).

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Pillow or folded towel
- Free standing mirror
- Body lotion

PROCEDURE

1. Undress down to the waist.
2. Stand in front of mirror with arms at side.
3. Observe for:
    a. Changes in shape.
    b. Swelling.
    c. Dimpling of skin.
    d. Changes in nipple.
    e. Wrinkled or rough skin (resembles orange peel).
    f. Blue tinged skin.
4. Raise arms up in air and make same observations as before.
5. Lower arms and rest palms of hands on hips.
6. Press down firmly on hips and inspect front, left and right side.
7. Inspect breast from collarbone to nipples with palms and fingers (may be done in
the shower).

8. Grasp tissue between underarms and breast and squeeze gently in rolling motion. Do this on both sides; you are feeling for any lumps.
9. Lie down on bed and place a small pillow or folded towel under your right shoulder and place right arm behind head.
10. Palpate the right breast with left hand. Your hand should move clockwise on your
breast, starting at 12 o'clock and continuing around the circle. Body lotion may make this step easier.
11. Inch fingers toward the nipple and repeat the circle.
12. Continue until have examined the whole breast.
13. Note any tender areas or any lumps.
14. Squeeze the nipple between thumb and index finger and look for any discharge from the nipple.
15. Press the nipple with index finger and middle finger and examine area under the nipple.
16. Place the pillow or towel under left shoulder and raise left hand behind head; repeat steps on left breast.
17. Breast exams should be done monthly. If pre-menopausal, examine breasts one week after period ends. If postmenopausal, choose a day that is easy to remember and exam routinely on that date.
18. Report to your doctor if you find:
    a. Lumps.
    b. Discharge from the nipple.
    c. Dimpling of skin.
    d. Blue tinged skin.
    e. Swelling or tenderness.
    f. Changes in shape of breast.
    g. Skin that looks like orange peel.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure completed.
- Findings including appearance, color, size, and shape.
- Report any lumps or changes in the breast.

RELATED PROCEDURES

None

PAIN ASSESSMENT

PURPOSE

- To assess client level of pain.
- To identify treatments or other factors that alleviates pain.
- To identify factors that increase or enhance pain.
- To promote comfort.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (identify): _____

EQUIPMENT/SUPPLIES

Pain assessment tool

SPECIAL CONSIDERATIONS

- Many home care clients experience chronic pain related to long term diseases or functional limitations.
- Each person's perception of pain is individual. It may be diminished in the elderly.
- Specific diseases or complications of illness may impair the client's ability to define or report pain. Use very specific questions and use visual facial descriptions of pain for clarification.
- Clients may be unwilling to take medications for pain or under report the degree of pain. Look for alternatives to drugs to control or alleviate pain.

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Assess these parameters when the client is experiencing pain:
    a. Location of the client's pain.
    b. What actions or situations increase pain?
    c. What actions or situations relieve pain?
    d. Quality of the pain as described by the client (dull, sharp, constant, etc.).
    e. Assess associated symptoms observed and reported: nausea, vomiting, tachycardia, increased respirations, shallow respirations, etc.

4. On a scale of one to ten or other measurable scale, record the client's rating of their pain. Visual aids may be helpful in describing pain.
5. Effect pain is having on daily activities and quality of life.
6. Medication/treatment history and their effectiveness in controlling pain. Note any history of drug abuse or misuse.
7. Mood changes as a result of the pain
8. Discuss pain management intervention options and assess their preferences.
9. Implement treatment plan.
10. Evaluate the effectiveness of the treatment or medication.
11. Assess pain at regular intervals and whenever there is a new or exacerbated report of pain.
12. Specifically assess response to any intervention - pharmacologic or not.
13. Instruct client on the assessment process and measurement tool so the reports are reflective of client need and response.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- General status of client including vital signs.
- Client description of pain including location, quality, and self rating of the pain.
- Treatments/interventions and response.
- Physician notification as appropriate.
- Other findings.

RELATED PROCEDURES

Medication Administration, Assessment Procedures

TESTICULAR SELF-EXAMINATION

PURPOSE

- Recommended monthly screening for testicular tumors.
- To promote early Identification and treatment of cancers.

APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): _____

EQUIPMENT/SUPPLIES

None

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Instruct the client to examine testicles monthly. The procedure is usually performed in the shower. Clients from 13 years to adulthood should be instructed and encouraged to perform self-exam. Highest incidence of testicular cancers is between 15 and 34 years
   of age.
3. Hold scrotum in the palm of the hand and use the thumb and first two fingers to feel for an egg shaped and movable organ that is non-tender to touch. The epididymis should feel slightly softer to the touch.
4. Examine each testicle along a horizontal plane by rolling the skin between the thumb and forefinger of each hand.
5. Repeat the procedure by feeling for lumps or other abnormalities along the vertical plane.
   a. Report any lumps or nodules to the physician.
   b. It is normal for one testis to be larger than the other.
   c. Testicular tumors present as an irregular, non-tender, fixed mass. A dragging sensation or heaviness in the area may be reported.
6. If teaching the procedure, document the procedure taught, response to teaching, demonstration and/or verbalization of understanding.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Procedure completed, date and time.
- Findings.
- Client tolerance of procedure.

RELATED PROCEDURES

Self Breast-Examination

ASSISTING THE CLIENT TO AMBULATE

PURPOSE

To assist the client to walk safely with or without a safety device.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Transfer belt/Gait belt
- Non-skid footwear

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Explain the procedure to the client, speaking clearly.
3. Before walking, put on and fasten non skid footwear on the client
4. If working with an adjustable bed, adjust to low position so the client's feet are flat on the floor
5. Stand in front and face the client. Put on transfer belt and fasten securely
6. If the client is able, allow client to stand without help. If unable to stand without help support the client's leg(s) with your legs.
7. Bend your knees and lean forward and grasp the transfer belt on both sides.
8. Tell the client to lean forward and push down on the bed with their hands, and stand on the count of three.
9. When you start to count, begin to rock and at three, rock your weight onto your back foot and assist to standing position
10. With a transfer belt, walk behind and to the side of the client. Support the client's back with your arm. If the client has a weaker side, stand on that side. Use the hand that is not holding the belt to offer support on the weak side.
11. Observe the client's strength. Provide a chair if the client becomes weak or tired.
12. When ambulation is finished, position client in chair or bed according to their wishes.
13. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The use of transfer belt.
- How far the client walked and how much assistance was required.
- Pain or discomfort noted.
- Report any concerns or questions to the supervisor.

RELATED PROCEDURES

Grooming and other personal cares

ASSISTING WITH AMBULATION FOR CLIENT USING CANE, WALKER OR CRUTCHES

PURPOSE

To assist the client to walk safely with an assistive device.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Transfer belt/Gait belt
- Non-skid footwear
- Cane, walker or crutches

PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Explain the procedure to the client, speaking clearly.
3. Before walking, put on and fasten non skid footwear on the client
4. Put transfer belt on the client and fasten securely. Assist to stand as needed
5. **USING A CANE**
    a. Client places the cane about 12 inches in front of the stronger leg.
    b. He/she bring the weaker leg even with the cane. Then move the stronger leg forward slightly ahead of the cane, and repeat.
    c. The canes moves in front of the stronger side so there is support when bringing the weaker side forward.
    d. Caregiver stands on weaker side and provides support as needed.
    e. Wash hands.
6. **USING A WALKER**
    a. The client picks up or rolls the walker and places it about 12 inches in front of him.
    b. All four wheels or feet of the walker should be on the ground before the client steps forward to the walker.
    c. The walker should not be moved until he client has moved both feet forward and is in a steady position.
    d. The client should never put his feet ahead of the walker.

7. **USING CRUTCHES**
    a. Before using crutches, the client should be fitted for them, and taught to use them correctly. This is done by a physical therapist or nurse
    b. When using crutches the weight is on the hands and arms and not on the underarms.
8. In all situations, the caregiver should walk slightly behind and on the weak side if the client has a weaker side. Hold on to the transfer belt until it is determined that the client is steady on their own.
9. Encourage the client to look up and ahead and not down at their feet.
10. Observe the client for signs of fatigue as being tired increases the risk for falls
11. After ambulation, remove transfer belt and assist the client to comfortable position.
12. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The use of transfer belt and any assistive device used (cane, walker, or crutches)
- How far the client walked an how much assistance was required.
- Pain or discomfort noted.
- Report any concerns or questions to the supervisor.

RELATED PROCEDURES

Grooming and other personal car

ASSISTING CLIENT WITH USE OF BEDPAN

PURPOSE

- To allow client to go to the bathroom when unable to get up.
- To promote comfort and cleanliness
- To prevent incontinence and associated problems

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Bedpan
- Bedpan cover,
- Protective pad,
- Blanket,
- Toilet paper,
- Disposable wipes,
- Soap,
- Towel,
- Plastic bag,
- 2 pair of gloves,
- Talcum powder if needed

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Provide privacy for the client by closing doors or shades and using a blanket or towel for cover.
4. Put on gloves.
5. Warm outside of the bedpan with warm water in the bathroom and cover it when you bring it to the client.
6. Dust the top of the bedpan with talcum powder to prevent it from sticking to the client's skin. **Do not use talcum powder if a stool or urine sample are needed.**

7. Place a protective pad under the client's buttocks and hips. To do this have the client roll toward you. If the client cannot do this, you must turn the client toward you. Move to the other side of the bed and place the protective pad on the area where the client should be fanfolded (folded several times into pleats) and tucked under the client. Ask the client to roll onto his back or roll him as you did before. Unfold the rest of the pad so it completely covers the area under and around the client's hips.
8. Help client to remove undergarments
9. Place the bedpan near his hips in the correct position. A **standard bedpan** should be positioned with the wider end aligned with the client's buttocks. A **fracture pan** should be positioned with the handle toward the foot of the bed.
10. If the client is able ask him to raise hips by pushing with feet and hands at the count of three. If the client cannot do this, place your arm under the small of his back and tell him to push with heels and hands on your signal as you raise the hips.
11. If the client cannot help, keep the bed flat and roll the client away from you. Slip the bedpan under the hips and roll the client back onto the bedpan. Keep the bedpan centered underneath.
12. Remove and discard gloves and wash hands
13. Raise the client into a semi-sitting position
14. Provide the client with toilet paper, disposable wipes and a bell or a way to call you.
15. When called by the client, return and put on gloves
16. Remove the bedpan carefully, and cover it.
17. Provide perineal care if help is needed. Wipe female clients from front to back.
18. Dry the perineal area with a towel, and assist client to put on clothing
19. Wrap toilet paper and disposable wipes in a plastic bag and discard the bag. Place towel in laundry
20. Take the bedpan into the bathroom and empty contents into the toilet, unless specimen is needed or intake and output is measured. Note: color, odor, and consistency of contents before flushing.
21. Turn faucet on with a paper towel and rinse the bedpan with cold water first and empty into toilet. Flush the toilet and clean the bedpan with hot, soapy water.
22. Remove and discard gloves and wash your hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of skin concerns and what is reported to nurse.
- Pain or discomfort noted.
- Observations about stool and or urine.

RELATED PROCEDURES

Grooming and other personal cares

ASSISTING CLIENT WITH USE OF URINAL

PURPOSE

- To allow client to go to the bathroom when unable to get up.
- To promote comfort and cleanliness
- To prevent incontinence and associated problems

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Urinal
- Protective pad
- Disposable wipes
- Plastic bag
- 2 pair of gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Provide privacy for the client by closing doors or shades and using a blanket or towel for cover.
4. Put on gloves
5. Place a protective pad under the client's buttocks and hips.
6. Help client to remove undergarments
7. Hand the urinal to the client. If the client is not able to help himself, place the urinal between his legs and position the penis inside the urinal. Replace covers
8. Remove and discard gloves. Wash your hands
9. When called by client, return and put on gloves.
10. Place the disposable wipes in a plastic bag and discard the bag
11. Remove the urinal or have the client hand it to you. Empty contents into toilet.
12. Turn on faucet with a paper towel and rinse the urinal with cold water and empty into the toilet. Flush the toilet and store the urinal
13. Remove gloves and discard. Wash your hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how the patient tolerated the procedure and their participation.
- Any observations of skin concerns and what is reported to nurse
- Pain or discomfort noted.
- Observations about urine—color, odor, cloudiness.

RELATED PROCEDURES

Grooming and other personal care

BED BATH

PURPOSE

To cleanse the skin, stimulate circulation, provide mild exercise, and promote comfort. To allow assessment of skin condition, joint mobility and muscle strength.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Bath Basin
- Bath blanket or sheet
- Skin cleaner
- Towels and washcloth
- Skin lotion
- Deodorant
- Orangewood stick/ nail file
- Gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Adjust temperature of client's room, and close any doors or windows to prevent drafts and provide privacy.
4. Offer the bedpan or urinal.
5. Fill the bath basin two-thirds full of warm water (about 115 degrees F, and bring to bedside.
6. Remove the patient's gown/pajamas, and other articles such as elastic stockings, ace bandages and other articles as needed.
7. Cover the client with a bath blanket to provide warmth and privacy.
8. Put on gloves.
9. Place a towel under patient's chin. Then wash the patient's face. Begin with the eyes, working from inner to outer canthus without soap. Use a separate area of the washcloth for each eye to avoid spreading infection.

10. If the patient can tolerate a skin cleaner such as soap, apply to the cloth and wash the rest of the face and neck. Rinse well and dry completely- taking care in skin folds and creases. Observe for any redness, skin irritation, itching or other concerns.
11. Turn down the bath blanket/towel to and place bath towel below the area to be washed. Wash , rinse and dry the chest and axillae, observing respirations during the procedure. Wash skin folds under the female patient's breasts by lifting each breast.
12. If the patient uses deodorant, apply it. Replace the bath blanket over chest. Place a bath towel underneath the patient's arm that is on far side of the bed. Bathe the arm using long smooth strokes moving from wrist to shoulder to stimulate circulation. If possible, soak the patient's hand in the basin to remove dirt and soften the nails. Observe the color of the hand and nail beds. Follow the same procedure for other arm.
13. Turn down the blanket to expose the abdomen and groin, keeping the towel across the chest for warmth. Bathe, rinse and dry the abdomen and groin area.
14. Uncover the leg that is on the far side of the bed, and place the bath towel under the leg. If the client is able, place the patient's foot in the bath basin. Soak the foot while washing the leg from ankle to hip. If the patient is not able to put foot in basin, wash the leg first and then the foot. Rinse and dry leg and foot.
15. Repeat process on the other leg and foot.
16. Cover the patient, and change the bath water.
17. Remove gloves, wash hands, and put on new gloves
18. Roll the patient onto side or abdomen as tolerated
19. Bathe, rinse, and dry the back and buttocks. Bathe the anal area from front to back to avoid contamination. Rinse and dry the area.
20. Turn the patient on their back and cover with blanket/towel.
21. Remove gloves, wash hands, change bath water, put on clean gloves.
22. Bathe the genital area with gentle strokes moving from front to back. Rinse well and pat dry.
23. Remove gloves, wash hands, and assist the patient in dressing. Reapply ace bandages or elastic stockings as ordered.
24. Position patient for comfort.
25. Put on gloves and cleanse the basin, and put supplies away.
26. Dispose of soiled linens.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how the patient tolerated the procedure and their participation.
- Any observations of skin concerns and what is reported to nurse
- Pain or discomfort noted.

RELATED PROCEDURES

Grooming and other personal care

CLEANING AND CARE OF DENTURES

PURPOSE

- To provide oral care to person with dentures.
- To promote cleanliness, comfort and prevent infection.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Denture brush or toothbrush
- Denture cleanser or tablet
- Denture cup for storage
- Towels
- Basin or sink
- Gauze squares
- Gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Put on gloves
4. Line the sink or basin with one or two towels and partially fill with water. The towels will prevent the dentures from breaking if they slip from your hands and fall into the sink.
5. Ask the client to remove the dentures and place them in a denture cup. If the client is unable to remove the dentures, you may do it.
6. Remove the lower denture first. Grasp the lower denture with a gauze square and remove it. Place it in a denture cup filled with moderate temperature water.
7. The upper denture is sealed by suction. Firmly grasp the upper denture with a gauze square and give a light downward pull to break the suction. Turn at an angle to remove from the mouth.
8. Take the denture cup to the sink or basin. Rinse the dentures in running water before brushing them. Do not use hot water.
9. Apply toothpaste or cleanser to toothbrush. Brush the dentures on all surfaces.

10. Rinse all surfaces of dentures under moderate temperature running water. Rinse denture cup before placing dentures in the cup
11. Store dentures in solution or moderate temperature water to prevent them from warping. Place a lid on the cup. Always store dentures in a labeled denture cup to avoid accidentally throwing them away.
12. If the client wants to continue wearing the dentures return them to him/her. Do not place in a denture cup.
13. **Reinserting Dentures**
    a. Wash hands. Put on gloves.
    b. Apply denture cream or adhesive to the dentures if needed.
    c. Ask the client to open their mouth. Insert the upper denture into the mouth by turning it at an angle. Straighten it and press it onto the upper gum line firmly and evenly.
    d. Insert the lower denture onto the gum line of the lower jaw and press firmly.
14. Rinse and store equipment. Discard linens.
15. Remove gloves and discard them.
16. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of skin/mouth, ill fitting dentures, pain or discomfort .
- What is reported to Nurse.

RELATED PROCEDURES

Grooming and other personal care

FINGERNAIL CARE

PURPOSE

To promote cleanliness and comfort of hands and nails.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Small basin or bowl
- Bath thermometer if available
- Orangewood stick, emery board
- Washcloth, bath towel, soap, lotion, and gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Remove client rings. If necessary, remove nail polish with a cotton ball soaked with nail polish remover.
4. Fill the basin halfway with warm water. Test water temperature with a bath thermometer or on your wrist to make sure it is a safe temperature. Water temperature should be 105 degrees F.
5. Place the basin at a comfortable level for the client. Place hands in the water and soak the nails for 2-5 minutes.
6. Remove hands from water. Wash hands with warm soapy washcloth and rinse. Dry the client's hands with a towel, including between the fingers.
7. Remove the basin.
8. Put on gloves.
9. Place the client's hands on the towel. Use the pointed end of the orangewood stick or a nail brush to remove dirt from under fingernails.
10. Wipe the orangewood stick on towel after cleaning each nail. Wash hands again and dry them completely.
11. Shape the nails with an emery board or nail file. File in a curve and make sure nails are smooth and free of rough edges.
12. Apply lotion from fingertips to wrists. Replace rings.

13. Discard water and clean the basin. Remove gloves and wash your hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Nail care procedure and any observations.
- Pain or discomfort noted.
- Report any concerns or questions to the supervisor.

RELATED PROCEDURES

Grooming and other personal care

FOOT CARE

PURPOSE

To promote cleanliness and comfort of FEET

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Small basin or bowl
- Bath thermometer if available
- 2 bath towels, wash cloth, soap, lotion, and gloves
- Clean socks

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Fill the basin halfway with warm water. Test water temperature with a bath thermometer or on your wrist to make sure it is a safe temperature. Water temperature should be 105 degrees F.
4. Place the basin on a bath mat or bath towel on the floor (if the client is sitting in a chair) or on the towel at the foot of the bed if client is in bed.
5. Remove client's socks. Put feet in water so that feet are completely in the water.
6. Soak the feet for 5-10 minutes, adding warm water as necessary for comfort.
7. Put on glove.
8. Remove one foot from the water –wash the entire foot, including between the toes and around nail beds with warm, soapy wash cloth, Rinse entire foot.
9. Dry the foot thoroughly.
10. Repeat above steps for the other foot.
11. Put lotion in one hand and warm by rubbing hands together.
12. Massage the lotion into the entire foot- top and bottom, but not between the toes.
13. Assist with putting on clean socks.
14. Discard water and clean the basin. Remove gloves and wash your hands.

OBSERVATIONS DURING FOOT CARE

a. Dryness of the skin on the feet.
b. Any breaks or tears in the skin.
c. Ingrown nails or long ragged toenails.
d. Changes in color of the feet, such as redness, gray, white or black areas.
e. Drainage or bleeding.
f. Corns and blisters.
g. Difference in temperature in feet.
h. Soft and fragile heels.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- Nail care procedure and any observations.
- Pain or discomfort noted.
- Report any concerns or questions to the supervisor.

RELATED PROCEDURES

Grooming and other personal care

COUNTING AND RECORDING RESPIRATIONS

PURPOSE

To measure the number of times the client breathes in and out in one minute.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Stethoscope
- Watch with second hand
- Alcohol wipes
- Pen and paper

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Each respiration consists of inspiration (breathing in) and expiration (breathing out). The chest rises during inspiration and falls during expiration.
4. Normal respiration rate for adults ranges from 12-20 breaths per minute. Infants and children have a faster respiratory rate.
5. People may breathe faster if they know they are being observed. Because of this, you can count the respirations after you check the client's pulse. With your hand on the client's wrist measuring pulse, you can observe the breathing and count the respirations.
6. You can also listen for respirations with the stethoscope when checking an apical pulse.
7. When finished, document the respiratory rate.
8. Wash Hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure.
- Document the respiration rate, date, time and method used. Note any irregularities in the breathing.

RELATED PROCEDURES

- Grooming and other personal care
- Measuring other vital signs

ORAL CARE

PURPOSE

- To clean and moisten the mouth.
- To promote comfort and prevent infection.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Toothbrush
- Toothpaste
- Emesis basin
- Glass of water
- Towel
- Lip moisturizer
- Gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Put on gloves.
4. Place a towel across the client's chest.
5. Remove any dental bridgework or ask the client to remove them.
6. Wet the toothbrush and apply a small amount of toothpaste on brush.
7. Clean the entire mouth, including the tongue and all surfaces of the teeth and the gumline. Using gentle strokes, first brush inner, outer and chewing surfaces of upper teeth. Then do the same procedure for lower teeth. Use short strokes and brush back and forth.
8. Give the client a glass of water to rinse the mouth. Place the basin under the client's chin, with the inward curve under the chin. Have client spit water into basin.
9. Wipe the client's mouth and remove towel.
10. Replace any dental bridgework. Apply moisturizer to lips per client preference.

11. Discard water, rinse and dry the basin, dispose of towels in laundry, and put supplies away.
12. Remove gloves and discard, wash hands.

DOCUMENTATION GUIDELINES

Observation during oral care:

- Irritation, raised areas, coated or swollen tongue.
- Ulcers, such as canker sore or small, painful white sores. Flaky white sores.
- Any bleeding from gums or whitish gums.
- Dry, cracked, bleeding or chapped lips.
- Any reports of mouth pain.
- Breath that smells bad or has a fruity odor.

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of mouth or skin concerns (listed above) and what is reported to nurse.
- Pain or discomfort noted.

RELATED PROCEDURES

Grooming and other personal care

ORAL CARE FOR UNCONSCIOUS CLIENT

PURPOSE

- To keep the mouth clean and moist.
- To promote comfort and prevent infection.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Mouth swabs
- Tongue depressor
- Emesis basin or small bowl
- Glass of cool water
- Cleaning solution (per care plan)
- Lip moisturizer
- Gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client. Even clients who are unconscious may be able to hear you. Always speak to them as you would any client.
3. Put on gloves.
4. Turn client on their side and turn head to the side. Place a towel under the cheek and chin. Place the basin next to the cheek and chin so fluid flows into the basin
5. Hold mouth open with a tongue depressor.
6. Dip the sponge swab in the cleaning solution. Squeeze excess solution to prevent aspiration.
7. Wipe teeth, gums, tongue, and inside surfaces of the mouth. Remove any debris or loose particles with swab. Change swab frequently and continue until the mouth is clean.
8. Rinse with a clean swab dipped in water. Squeeze first to remove excess water.
9. Remove the towel and basin. Pat face and lips dry and apply lip moisturizer.

10. Discard the water and rinse and dry the basin. Dispose of towel in laundry
11. Remove gloves and discard. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of mouth ulcers or broken skin, condition of mucous membranes, problems with teeth, mouth, tongue and lips. Report to supervisor.

RELATED PROCEDURES

Grooming and other personal care

SHAMPOO IN BED

PURPOSE

- To promote personal hygiene.
- To promote self care in the home.
- To promote comfort.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Shampoo tray
- Shampoo, conditioner, comb/brush
- A pitcher or bucket of water (warm-pr client comfort level)
- Hair dryer
- Plastic protection for the bed
- Disposable gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Assemble supplies at bedside.
4. Place a pillow under the client's shoulder. Place a towel over a plastic sheet, and put the towel and plastic protector under the client's head.
5. Place the shampoo tray under the client's head.
6. Place a bucket of water on a chair at the bedside to collect the water. Place plastic bags and towels to absorb water spills.
7. Fill the pitcher with warm water and pour over the hair.
8. Apply shampoo and lather, rinse with warm water and repeat as necessary. Apply conditioner per client request, and rinse thoroughly.
9. Towel dry hair and neck and remove the shampoo tray.
10. If available dry hair with hair dryer. If not towel dry so the hair is not wet.
11. Comb hair to desired style.
12. Clean and replace the equipment. Discard disposable items.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Condition of the hair and scalp
- Any pain or discomfort

RELATED PROCEDURES

Grooming and other personal care

SHAVING A CLIENT

PURPOSE

To remove facial hair and promote cleanliness and comfort.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Razor
- Basin
- Shaving cream or soap
- 2 towels
- Washcloth
- Mirror
- After shave lotion
- Gloves
- A safety razor has a sharp blade which comes with a safety casing to help prevent cuts. This type of razor requires shaving cream or soap
- An electric razor is the safest and easiest type of razor to use, and does not require soap or shaving cream

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Place the equipment on a table within reach of the client.
3. If the client wears dentures, make sure they are in place
4. Put on gloves. Gloves should always be worn when shaving a client due to risk of bleeding.
5. **Shaving using a safety or disposable razor**
    a. Fill basin with warm water.
    b. Soften the beard with a warm, wet washcloth on the face for a few minutes before shaving.
    c. Lather the face with shaving cream or soap and warm water.
    d. Hold the skin taut, and shave in the direction of hair growth.

e. Shave beard in downward strokes on the face and upward strokes on the neck.

f. Rinse the blade often in the basin to keep it clean and wet

g. When finished shaving the client, wash and rinse their face with a warm wet washcloth.

h. Towel dry.

6. **Shaving using an electric razor**

a. Do not use an electric razor near any water source, when using oxygen, or if the client has a pacemaker.

b. Turn on razor and hold skin taut. Shave with smooth even movements. Shave beard with circular motion with a three head shaver. Shave the chin and under the chin.

7. If the client wants after shave lotion, moisten your palms with lotion and pat onto client's face.

8. Remove towel and put in laundry.

9. Clean the equipment and store it. For a safety razor, rinse the razor. For a disposable razor, dispose of it in a sharps container, if available.

10. For electric razor, clean had of razor, remove whiskers from razor and recap the shaving head. Return the razor to case.

11. Remove and discard gloves. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of skin concerns and what is reported to nurse.
- Pain or discomfort noted.

RELATED PROCEDURES

Grooming and other personal care

MEASURING AND RECORDING ORAL TEMPERATURE

PURPOSE

- To monitor temperature as a sign of client health.
- To monitor fluctuations as an indication of infection or other problem.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Clean mercury-free
- digital or electronic thermometer
- gloves
- disposable sheath cover for thermometer
- tissues
- pen and paper

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Place the equipment on a table within reach of the client.
3. Put on gloves
4. **Mercury free thermometer**

    a. Hold the thermometer by the stem. Before inserting into the client's mouth, shake thermometer down to below the lowest number (at least 96° F or 35° C) To shake the thermometer down, hold it at the end opposite the bulb with the thumb and two fingers. With a snapping motion of the wrist, shake the thermometer. Stand away from furniture and walls while doing this.

    b. Put on disposable sheath, if available. Insert bulb end of the thermometer into the client's mouth, under tongue and to one side.

    c. Tell the client to hold the thermometer in mouth with lips closed. Ask the client to not bite down or talk. Leave the thermometer in place for at least three minutes.

    d. Remove the thermometer, wipe with a tissue from stem to bulb or remove sheath. Dispose of tissue or sheath. Hold thermometer at eye level and rotate until the line appears. Read the temperature and write it down.

e. Clean the thermometer with soap and water. Rinse with clean water and return to case.

5. **Digital thermometer:**

   a. Put on the disposable sheath. Turn on thermometer and wait until "ready" sign appears.

   b. Insert the end of the digital thermometer into client's mouth, under tongue and to one side.

   c. Leave in place until the thermometer blinks or beeps.

   d. Remove the thermometer. Read the temperature on display screen and write it down.

   e. Using a tissue, remove and dispose of the sheath. Replace the thermometer in case.

6. **Electronic thermometer:**

   a. Remove the probe from the base unit. Put on probe cover.

   b. Insert the covered probe into the client's mouth, under tongue and to one side.

   c. Leave in place until you hear a tone or see a flashing or steady light.

   d. Read the temperature on the display screen. Remove the probe. Write down the temperature.

   e. Press the eject button to discard the cover. Return the probe to the holder.

7. Remove gloves and discard. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Temperature, date, time and method used.

RELATED PROCEDURES

Grooming and other personal care

TRANSFER BED TO WHEELCHAIR

PURPOSE

To safely move a patient from bed to wheelchair utilizing the patient's strong side to maximize his/her participation.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Transfer belt/Gait belt
- Non-skid footwear

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Remove the wheelchair footrest closest to the bed.
4. Place the wheelchair near the head of the bed with arm of wheelchair close to the bed. The wheelchair is placed on the client's **stronger side.**
5. Lock the wheelchair wheels.
6. Assist the client to a sitting position with feet flat on the floor.
7. Put transfer belt around client's waist.
8. Stand in front of the client with feet about 12 inches apart. Bend your knees.
9. Grasp the transfer belt securely on both sides.
10. Provide instructions to the client on how to assist with the transfer.
    a. When starting to stand push with hands against the bed.
    b. Once standing, reach for the chair with your stronger hand.
11. With your legs, brace client's lower legs to prevent slipping.
12. Count to three to direct client on when to begin to stand.
13. Ask the client to put hands on wheelchair arm rests if able. When the chair is touching the back of the client's legs, help the client to sitting position.
14. Remove the transfer belt.
15. Attach footrest to chair and place client's feet on footrest. Check that the client is in good alignment.

16. Wash hands.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- How much assistance was required.
- Pain or discomfort noted.
- Report any concerns or questions to the supervisor.

RELATED PROCEDURES

Grooming and other personal care

SHOWER OR TUB BATH

PURPOSE

- To promote good health and wellbeing. Stimulates circulation, and removes perspiration, dirt and oil from skin.
- Promotes relaxation.

APPLIES TO

- Home Health Aides
- Other (Identify): _____

EQUIPMENT/SUPPLIES

- Transfer belt/Gait belt
- Shower chair or bath bench as needed
- Non-skid footwear
- Two bath towels, washcloth, soap or other cleanser, bath thermometer if available, bath mat, lotion and other toiletries, clean clothes or robe, and gloves

PROCEDURE

1. Wash hands. Refer to the Hand Washing Procedure.
2. Explain the procedure to the client.
3. Clean tub or shower as needed.
4. Place rubber mat on tub or shower floor, set up tub or shower chair.
5. Place a non skid bath rug next to the tub or shower.
6. Fill the tub with warm water (105-110 degrees). Have client test water temperature for comfort.
7. Have client undress- assisting as needed.
8. Help client transfer to the bathtub or step in the shower.
9. Assist as needed- check on client frequently and if client is weak remain in the bathroom.
10. For a shower, stay with the client and assist with washing as needed.
11. If the client needs assistance, help to wash themselves as much as possible.
12. Always wash from clean areas to dirty areas. Make sure all soap is rinsed off so skin does not become irritated.
13. Assist with washing hair if necessary.

14. When bath or shower is finished, help the client out of the tub or shower and wrap in a towel. Have the client sit on a chair and hand another towel for drying
15. Assist with applying powder, lotion and deodorant as needed.
16. Clean the tub and place laundry in hamper.
17. Wash hands and put away supplies.

DOCUMENTATION GUIDELINES

Document in the clinical record:

- The procedure and how patient tolerated the procedure and their participation.
- Any observations of skin concerns and what is reported to nurse.
- Pain, discomfort, or fatigue noted.

RELATED PROCEDURES

Grooming and other personal care

SKILLED NURSING CHECKLIST

EMPLOYEE NAME: _____ **DATE:** _____

RN _____ LPN _____

CLINICAL EXPERIENCE:

Please check the areas in which you have experience.

OFFICE ONLY	**DATE:**
REVIEWER:	
PLAN DEVELOPED:	**Y**_____ **N**_____

PROFICIENCY LEVEL KEY	**D = DAILY W = WEEKLY O = OCCASIONALLY N = NEVER**	**EXPERIENCE WAS WITHIN 12 MONTHS TIME**	**EXPERIENCE WAS MORE THAN 12 MONTHS AGO**	**PROFICIENCY LEVEL**
ASSESSMENT SKILLS				
Neurological				
Cardiovascular				
Pulmonary				
Gastrointestinal				
Genitourinary				
Integumentary				
SKIN CARE				
Sterile Dressing Change				
Non-sterile Dressing Change				
Application of Skin Barriers				
NASO-GASTRIC TUBE				
Insertion				
Care				
TRACHEOSTOMY				
Tube Change				
Tube Care				
SUCTIONING				
Nasogastric				
Tracheal				
OXYGEN THERAPY				
VENTILATOR CARE				
INHALATION TREATMENTS				
ENTERAL THERAPY				
Gastrostomy Tube Change				
Tube Care				
Tube Feedings				
ENEMA ADMINISTRATION				
BOWEL PROGRAM				
REMOVAL OF FECAL IMPACTION				
FOLEY CATHETER				
Insertion				
Irrigation				
Tube Care				

PROFICIENCY LEVEL KEY	**D = DAILY W = WEEKLY O = OCCASIONALLY N = NEVER**	**EXPERIENCE WAS WITHIN 12 MONTHS TIME**	**EXPERIENCE WAS MORE THAN 12 MONTHS AGO**	**PROFICIENCY LEVEL**
COLOSTOMY/ILEOSTOMY CARE				

SPECIMEN COLLECTION			
Venipuncture			
Central Line Blood Sampling			
Sputum			
Urine			
Stool			
Wound			
Accucheck			
IV THERAPY			
IV Starts			
Central Line Care			
Portacath			
Hickman			
Groshong			
Triple Lumen			
Epidural Catheters			
TPN ADMINISTRATION			
BLOOD TRANSFUSIONS			
PAIN MANAGEMENT			
CHEMOTHERAPY			
OTHER PROCEDURES/SKILLS			
Peritoneal Dialysis			
Shunt Care			
Medication Set-ups			
Dietary Teaching			
Range of Motion Exercises			
Transfers			
Hoyer Lifts			
TYPES OF CLIENTS			
Psychiatric			
Pediatric			
Infants			
Toddlers			
School Age			
Adolescent			
Spinal Cord Injured			
Blind			
Deaf			
Aphasic			
Hospice			
Immunosuppressed			

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)

Signature/Title of Evaluator: _____ Date: _____

AEROSOL NEBULIZERS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Checks physician orders and determines type of nebulizer/inhaler client is using		
2. Gathers supplies and explains procedures to client		
3. Washes hands and assesses client vital signs		
4. Prepares nebulizer by filling with prescribed amount of medication		
5. Turns on oxygen or compressed air source and sets at prescribed level (mist is visible from nebulizer).		
6. Inserts mouthpiece or attaches adapter to begin administration		
7. Instructs client to breath slowly and deeply and to hold nebulizer in upright position		
8. Monitors client pulse and respirations during treatment; observes for adverse reactions		
9. Encourages client to cough up secretions or suctions client as indicated		
10. When treatment complete, turns off flow meter		
11. Cleans equipment, disposes of waste and washes hands		
12. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

APNEA MONITORING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands		
3. Check auditory and visual alarms and assure they are set and working properly		
4. Connect the sensor belt and/or electrodes to client's chest		
5. Assess the client's vital signs and compare them with the results obtained from the monitor		
6. Identifies response to monitor alarms		
7. Assess client when alarm sounds to determine if client is breathing and has pulse		
8. Stimulate client as needed to elevate response		
9. Begin resuscitation if indicated		
10. Document alarm settings, interventions required, teaching completed changes in condition, physician notification		
11. Changes electrodes every 2-3 days as needed		
12. Gathers equipment and explains procedure to client		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

ARTERIAL BLOOD GASES

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Verify physician orders and parameters for drawing sample		
2. Notify laboratory personnel and courier as indicated		
3. Assess client condition		
4. Gather equipment and explain procedure to client		
5. Perform Allen test to ensure adequate collateral circulation: Have client close hand and make tight fist Apply direct pressure to both radial and ulnar arteries Instruct client to open hand, release pressure on ulnar artery only and observe for redness in ulnar region of hand; this indicates collateral circulation, if not present, notify the physician		
6. Prepare heparinized syringe, put on gloves, and select radial site		
7. Palpate with fingertips and select area of maximal impulse for puncture; assist client to hyperextended wrist		
8. Cleanse area with alcohol wiping from center in circular motion		
9. Place finger on wrist just above the puncture site and with needle bevel up insert at 45-degree angle; direct bevel proximally; watch for blood return		
10. Slowly withdraw and allow 2-3 ml of arterial blood to fill syringe		
11. Place a 2 x 2 gauze pad over puncture site and withdraw needle; apply pressure for 5 minutes		
12. Expel excess air bubbles from syringe and place end of needle into rubber stopper. Place labeled syringe in ice filled biohazard bag and attach requisition		
13. Remove gloves, discard supplies and wash hands		
14. Document in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

ARTERIOVENOUS FISTULA/SHUNT CARE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gather equipment and explain procedure to client		
2. Washes hands and puts on gloves		
3. Removes elastic bandage and dressing covering shunt and discard dressing		
4. Cleanses the catheter exit sites with Povidone swabs		
5. Cleanses each end of the shunt with new swab		
6. Applies small amount of anti-microbial ointment around the cannula sites per orders; secures the shunt by taping connections with tabs at the end of tape to prevent tension when untaping		
7. **Assessment of the patency of fistula:**		
8. Places stethoscope over suture line and auscultates for bruit; palpates the shunt to feel the bruit; inspects the u-loop for color and warmth		
9. Covers shunt with 4x4 gauze dressing; wraps arm with elastic bandage and secures the dressing		
10. Places cannula clamps on outside of bandage for ready access		
11. Disposes of waste and washes hands		
12. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

BLADDER PROGRAM

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Washes hands and explains procedure to client		
2. Instructs client in process of increasing bladder tone		
3. **Indwelling Catheter:**		
a. Clamps catheter for up to 2 hours to evaluate tolerance		
b. Unclamps catheter and instructs client to push down to stimulate urination		
c. Measures urine output		
d. Repeats process until able to retain 250 ml of urine		
e. Contacts physician about removing indwelling catheter		
4. **Without Indwelling Catheter:**		
a. Instructs client to void after meals and fluids, before bedtime and before activities		
b. Works with client to establish routine of going to bathroom to void and evaluates pattern		
c. If client continues to have incontinence during night or during day, increase frequency of going to bathroom, including setting alarms to void during night		
d. Documents plan and ongoing assessment of effectiveness in clinical record		
e. Notifies physician as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

BLOOD DRAW FROM CENTRAL VENOUS ACCESS DEVICE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment, explains procedure		
2. Washes hands and puts on gloves		
3. Discontinue infusions, flushes line with 3-5 ml preservative-free saline		
4. Vacutainer Method:		
a. Clamps catheter, attaches needle or needleless connector to vacutainer holder, and places blood tube in holder		
b. Disinfects the injection cap		
c. Inserts needle or needleless connector into cap, unclamps catheter, and advances the blood tube		
d. When blood tube filled, clamps catheter, removes tube and discards tube, inserts anther tube, unclamps catheter and collects specimen		
e. Removes vacutainer holder, disinfects injection cap, and flushes catheter with 5-10 ml of preservative free sterile saline		
5. Syringe Method: Follows steps 1-3 as above		
a. Clamps catheter, removes injection cap and discards; disinfects catheter hub with alcohol wipe		
b. Attaches syringe, unclamps catheter withdraws blood equal to 1-2 times the volume of access device, clamps catheter and removes syringe and discards and discards specimen		
c. Attaches syringe, unclamps catheter, withdraws required amount of blood, clamps catheter, and removes syringe		
d. Cleanses the hub of catheter and applies new injection cap		
e. Unclamps catheter, flushes with preservative-free saline		
f. Restarts infusion, labels tubes and places in biohazard container with lab request		
g. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

BLOOD PRODUCT ADMINISTRATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Assures that back up emergency service is available and physician available by phone during infusion. If second licensed person is unavailable, assures a responsible adult is available during infusion		
2. Obtains physician order for transfusion and pre-medication if indicated		
3. Obtains informed consent prior to therapy		
4. Gathers equipment and explains procedure to client		
5. Obtains baseline vital signs and records on transfusion record		
6. Prepares blood administration set, attach filter if necessary		
7. Primes blood administration set with 0.9% sodium chloride and attach to venous access or port		
8. Initiates infusion of sodium chloride		
9. Inserts spike of blood administration set with clamp closed into opening of blood container		
10. Opens clamp and slowly begins transfusion. Infuses slowly for first 15 minutes, then adjusts rate so infusion will complete in less than 4 hours		
11. Obtains vital signs every 15 minutes for first hour and then hourly during transfusion		
12. Identifies signs and symptoms of transfusion reaction and steps to take if this occurs		
13. Flushes blood administration set with 0.9 sodium chloride following each unit		
14. PLATELET TRANSFUSION:		
a. Uses administration set specific for platelet transfusion		
b. Documents baseline vital signs		
c. Infuses slowly for first 15 minutes and observes client for signs of transfusion reaction		
d. Observes flow rate and infusion site and adjusts as needed		
e. Flush platelet administration set with 0.9% sodium chloride after each unit of platelets		
15. Post Transfusion:		
a. Removes blood product containers, sodium chloride and blood administration sets and discard in appropriate containers		
16. Complete transfusion record and place in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

BOWEL PROGRAM/DIGITAL STIMULATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies client condition, program requirements, and specific orders		
2. Gathers equipment and explains procedure to client		
3. Washes hands and puts on clean gloves		
4. Positions client on left side with knees bent or per client-specific routines		
5. Places waterproof pad under buttocks, drapes for privacy		
6. Lubricates index finger of dominant hand and inserts into rectum		
7. Gently loosens fecal mass by massaging around mass, instructing client to take deep breaths		
8. Loosens mass into small pieces and moves down to the rectum and removes stool placing in bedpan		
9. Removes as much stool as possible and administers rectal suppository as ordered		
10. Assist client to sitting position on commode or in bathroom if appropriate.		
11. If unable to pass stool after suppository, repeat steps 6-8 until no stool is felt		
12. Assess client tolerance frequently and allows rest if evidence of fatigue		
13. Cleanses buttocks and rectal area, disposes of waste and supplies and positions client for comfort		
14. Removes gloves, washes hands		
15. Documents procedure and results in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

CENTRAL LINE CAP CHANGE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED ((OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. Prepares syringes of 5cc sterile saline and 2.5cc heparin flush		
4. Using aseptic technique primes new cap with sterile saline		
5. Clamps catheter and removes tape from the connecting site		
6. Grasps end of catheter, cleanses connector with alcohol and allows to dry		
7. Removes old cap, discards, removes protective cover from new cap and places on infusion catheter		
8. Releases clamp and determines if connection is secure, tapes in place		
9. Disposes of waste, removes gloves and washes hands		
10. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

CENTRAL LINE DRESSING CHANGE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment, explains procedure		
2. Washes hands and prepares flush solution		
3. Opens dressing change kit and puts on mask		
4. Wearing clean gloves, removes old dressing, examines catheter insertion site and inspects catheter and hub for loss of integrity		
5. Discards old dressing, removes gloves and dons sterile gloves		
6. Cleanses catheter site with alcohol starting from exit and moving outward in circular motion		
7. Follows with antiseptic/antimicrobial cleanser and lets air dry		
8. Cleanses length of catheter from exit site to tip with alcohol		
9. Consider applying chlorhexidine impregnated sponge disc at insertion site (come in central line dressing kits)		
10. Applies transparent dressing, sealing catheter in straight position		
11. Anchors to skin using tape		
12. Cleanses injection cap and catheter end, clamps catheter and removes old cap, replaces cap and flushes catheter		
13. Disposes of waste, removes gloves, washes hands		
14. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

CENTRAL LINE FLUSH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. Prepares flush solution—Heparin equal to or greater than the volume of the catheter times 2. Saline solution as needed before and after medication or infusion.		
4. Clamps catheter and cleanses injection port		
5. Inserts needle into injection cap, opens clamp and irrigates vigorously, maintaining pressure as the needle is withdrawn to prevent backflow		
6. Disposes of waste per policy		
7. Removes gloves, washes hands		
8. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

CLIENT/FAMILY TEACHING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Assesses client/family willingness to learn		
2. Assesses client/family ability to learn		
3. Assesses client/family barriers to learning		
4. Assesses client/family knowledge base		
5. Assesses client/family comprehension and comfort through return demonstration and/or verbalization of procedures, situations, treatments, or other information		
6. Utilizes client education materials as appropriate		
7. Teaching is structured to the client/family level of understanding		
8. Utilizes teaching aids and interpreters to facilitate learning in clients with non-English speaking skills		
9. Documents information taught to client/family and their response to the teaching		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

EDEMA, MEASURING AND RECORDING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Verbalizes and identifies parameters for measuring edema		
2. Identifies causes and symptoms of fluid retention		
3. Assesses medications, diet and activity as contributing factors to edema		
4. PHYSICAL ASSESSMENT:		
a. Explains procedure to client		
b. Washes hands		
c. Inspects areas of skin for edema: feet, ankles, sacrum, arms, hands, and any dependent sites		
d. Assesses pedal edema by measuring above bony prominences		
e. Assesses abdominal girth by measuring at naval area		
f. Assesses color, location and shape of edematous area		
g. Assesses for pitting edema by pressing area firmly with thumb for 5-10 seconds and noting indentation and how long it stays		
h. Measures edema on scale of 1-4 in mm of induration		
i. Assesses for signs and symptoms of circulatory overload such as crackles or wheezes on auscultation, shortness of breath and altered mental status		
j. Documents findings in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

ENEMAS, ADMINISTERING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Checks orders and verifies type and amount of enema to be given and reasons for enema		
2. Gathers equipment and explains procedure to client		
3. Washes hands and puts on gloves		
4. Positions client on left side or recumbent on bedpan if client has poor sphincter control		
5. Places waterproof, absorbent pad under hips and buttocks		
6. **Pre-Packaged Enemas:** Removes cap from the lubricated rectal tip and inserts slowly into rectum: a. Adult: 3-4 inches b. Children: 2-3 inches (Pediatric doses) **c.** Infants: 1-11/2 inches (Pediatric doses)		
7. Squeeze bottle until solution has been administered		
8. **Enema with Bag:** Prepares enema solution using warm tap water or specific solution. Fills tubing with solution and clamps. Lubricates tip with water soluble lubricant and inserts slowly as above		
9. Opens clamp and raises bag to appropriate level: a. Adult: 12-18 inches b. Children: 12 inches c. Infants: 3 inches		
10. Stops or slows infusion rate if complains of cramping or pain.		
11. When all fluid administered, clamps tubing and removes		
12. Instructs client to retain solution as long as possible (average 5-10 min.)		
13. Assists to bedpan, commode, or toilet		
14. When procedure completed, assists client with cleaning buttocks and perineal area		
15. Disposes of waste, washes hands		
16. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator _____ Date: _____

ENTERAL FEEDINGS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands, prepares bag and tubing for feeding		
3. Verifies that feeding is at room temperature		
4. Close clamp on administration set and fill bag with prescribed amount of feeding, unclamp and fill tubing with formula		
5. Elevates client head of bed		
6. Verifies tube placement, checks aspirate per policy. If aspirate within acceptable limits, flush tubing with 30 ml of water		
7. Initiates feeding **a. Bolus/Intermittent Feeding:** • Open clamp. Position feeding container no more than 18 inches above the client's head and allow to infuse per gravity. • Infuse over 30-60 minutes **b. Continuous Drip Method:** • Hang container on IV pole and connect feeding set, fill tubing • Connect tubing through infusion pump and set rate per orders • Turn pump on and initiate feeding per guidelines		
8. At end of infusion, flushes tube with 30 cc water, using an irrigation syringe. Administer recommended amounts of free water throughout the day.		
9. When feedings complete, clamps the proximal end of tube		
10. Cleans feeding container and tubing by rinsing with warm water		
11. Disposes of supplies and waste per policy		
12. Washes hands		
13. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

EPIDURAL CATHETERS OR PORTS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on mask and gloves		
3. Uses aseptic technique throughout procedure		
4. Marks the catheter/port/pump clearly to prevent accidental injections of medications through epidural access		
5. Follows manufacturers guidelines for access, care and maintenance		
6. Observes site for redness, cerebrospinal fluid drainage, swelling, or pain		
7. Does not use alcohol or cleansing agents containing acetone on the site or to disinfect injection ports		
8. Uses preservative free medications and non-bacteriostatic solutions to administer medications or solutions		
9. Uses a 0.22 micron filter surfactant free		
10. Notifies physician if CSF or blood is aspirated		
11. Documents all observations and interventions in clinical record		
12. Does not attempt to intervene if catheter is occluded or damaged, but notifies physician immediately		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

EXTERNAL CATHETER

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on gloves		
3. Positions client with waterproof pad under hips		
4. Cleanses the penis with soap and water and dries skin. Retracts foreskin as needed to cleanse meatus		
5. Drapes client and hold penis at 90-degree angle, rolling condom catheter over penis, leaving 1-2 inches between end of penis and condom connection site		
6. Secures catheter with sheath holder to completely encircle penis about one to two inches from base		
7. Attaches catheter to drainage system		
8. Dispose of waste and removes gloves, washes hands		
9. Assesses placement of catheter to assure the holder is not too tight and circulation is not compromised		
10. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

FOLEY CATHETER IRRIGATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Assesses urine output and characteristics of urine		
3. Washes hands and puts on gloves		
4. **Closed Method:** Prepares sterile irrigation solution and sterile syringe		
5. Clamps drainage tubing below injection port		
6. Cleanses injection port with antiseptic solution		
7. Inserts needle at 30-degree angle through injection port and injects fluid into catheter, withdraws syringe		
8. Removes clamp and allows to drain into drainage bag		
9. **Open Method:** Follows steps 1-4 as above		
10. Cleanses connection site of catheter and drainage bag with antiseptic swab		
11. Disconnects catheter from drainage bag, keeping end sterile, places cap over end of tubing to maintain sterility		
12. Attaches syringe to catheter and slowly injects the fluid into the catheter		
13. Removes syringe and allows solution to drain into basin. Repeat procedure as ordered for irrigation or instillation of medication		
14. After irrigation complete, cleanse open end of tubing with alcohol wipe and reconnect catheter to drainage		
15. Secures catheter, removes gloves and washes hands		
16. Documents in clinical record the procedure and findings		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GASTROSTOMY TUBE CARE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on gloves		
3. Inspects the skin at site for redness, tenderness, irritation, or drainage		
4. Cleanses stomal area with soap and water beginning at stoma site and working outward		
5. Uses cotton tipped applicators to cleanse areas that are difficult to reach		
6. Rinses area and dries		
7. Assesses the tension of the gastrostomy tube; checks balloon volume every 7-10 days to prevent accidental dislodging		
8. Does not apply dressing unless there is drainage at the site		
9. Discards disposable items, removes gloves and washes hands		
10. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GASTROSTOMY TUBE, CHANGE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers supplies and explains procedure to client		
2. Washes hands and puts on clean gloves		
3. Clamps tube and attaches 10cc syringe to injection port and withdraws air or water		
4. Removes tube		
5. Assess skin condition, observes for leakage, redness, edema or tenderness		
6. Changes gloves		
7. Lubricates tip of catheter		
8. Slowly inserts catheter into gastrostomy site about 5 to 6 inches		
9. Aspirates to verify placement		
10. Inflates balloon using syringe with water or air equal to size of the balloon		
11. Gently withdraws tube until it is snug against stomach wall; marks tube at skin surface		
12. Places a drain sponge around tube if indicated		
13. Label with date and time of change		
14. Dispose of supplies, remove gloves and wash hands		
15. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GASTROSTOMY/JEJUNOSTOMY FEEDINGS: CONTINUATION DRIP

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gather equipment and explain procedure to client		
2. Washes hands and sets up the feeding bag/or ready to hang bottle with tubing for infusion pump; opens clamp and fills tubing with formula		
3. Puts on gloves		
4. Verifies feeding tube placement per agency policy: **Gastrostomy Tube:** Attaches 60 cc syringe and aspirates gastric secretions, observes appearance and checks pH as ordered; verifies that pH is between 1-4 indicating gastric content; returns aspirated volume to stomach unless residual is greater than 100-150cc or per orders **Jejunostomy Tube: Not necessary to check residuals on jejunostomy tubes.** Aspirates intestinal secretions and checks pH per orders; pH between 6-7 indicates intestinal secretions		
5. Flushes tube with 30 cc water; attaches infusion set to tube, sets rate and initiates feeding		
6. Flushes tube before and after administering medications per tube and administers free water as ordered per day.		
7. When feedings are not being administered, clamps proximal end of the feeding tube and inserts adapter		
8. Disposes of supplies and washes hands		
9. Notifies physician of aspirate amounts as appropriate, and any untoward side effects		
10. Documents in clinical record; identifies teaching done and evaluation of learning		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GASTROSTOMY TUBE FEEDINGS, PEDIATRIC

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies age appropriate teaching and communication methods		
2. Verifies orders specific to age and condition		
3. Gathers equipment and explains procedure to client/family		
4. Washes hands and identifies access site; many children have a gastrostomy button instead of a tube as it decreases risk of being dislodged		
5. Sets up feeding set with bag or ready to hang solution for bolus or continuous feeding; opens clamp and fills tubing. *(Continuous feedings administered using infusion pump)*		
6. Puts on clean gloves		
7. Attaches syringe to tube or to button adapter and verifies tube placement and checks aspirate amounts		
8. Returns aspirated contents and flushes with 30 ml water. Initiates feeding at prescribed rate		
9. Flushes tube before and after administering medications through the tube		
10. When feeding not being administered, clamps proximal end of tube or closes adapter on button		
11. Disposes of supplies and waste and washes hands		
12. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GLUCOMETER

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Washes hands; dons gloves		
2. Turns on glucose meter		
3. Prepares meter by validating the proper calibration with strips to be used; checks expiration dates; records result on Quality Control Log		
4. Prepares the finger to be lanced by having client wash hands		
5. Selects finger; cleanses with alcohol pad		
6. Pricks the client's finger lateral to the fingertip using lancet type device obtaining a large hanging drop of blood		
7. Applies blood to strip area		
8. For meters with a "no wipe system", allows blood to remain on the strip until results appear on meter		
9. Covers lanced finger with gauze/tissue until bleeding subsides		
10. Disposes of lancet in puncture resistant container		
11. Removes glove; washes hands		
12. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

HANDWASHING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Wets hands and wrists completely; points fingers downward		
2. Applies soap over entire hand/wrist area; lathers well		
3. Scrubs hands and wrists well, paying attention to fingernails and between fingers		
4. Rinses well, keeping fingers pointed downward		
5. Dries hands and wrists completely using a paper towel or a clean hand towel		
6. Turns off faucet with the paper towel or cloth towel		
7. If no running water or handwashing facilities not available, uses a packaged handwashing product or hand sanitizer		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

IMPLANTABLE PORT, ACCESSING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment, explains procedure		
2. Washes hands and prepares 5 ml syringe of preservative-free saline		
3. Opens right angle needle package and prepares heparin flush		
4. Put on gloves and using aseptic technique primes needle and tubing with saline, leaves syringe attached and closes clamp on extension tubing		
5. Opens sterile dressing kit and puts on mask		
6. Prepares sterile field and opens sterile supplies		
7. Puts on sterile gloves, cleanses area over port septum with alcohol swab sticks moving outward in circular motion to 6 cm diameter; repeats 3 times; follows with chlorhexidine skin cleanser swabs 3 times and lets dry		
8. Palpates septum and inserts right angle needle through skin and pushes down firmly against needle stop, checks for placement by aspirating blood		
9. Flushes with saline and clamps tubing. If no infusion needed, flushes with 5 ml of Heparin (100u/ml) and clamps tubing		
10. **If port is to be accessed**: Places sterile gauze under wing to prevent rocking motion of needle, anchors needle to skin with tape and covers with gauze and occlusive transparent dressing		
11. Connects infusion tubing to extension set, opens clamp and begins infusion		
12. Dispose of waste, remove gloves and wash hands		
13. Documents in clinical record as appropriate		
14. Gathers equipment, explains procedure		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

IMPLANTABLE PORT, MAINTAINING AND FILLING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Obtains and reviews physicians orders, reviews manufacturers pump guidelines, obtains refill kit from manufacturer		
2. Assembles equipment, washes hands, puts on mask and gloves		
3. Locates septum of pump, palpates outer perimeter and assesses the skin over and around pump; notes and reports any redness, swelling or induration		
4. Disinfects skin and prepares the fill set per instructions		
5. Positions drape with opening over the prepared area		
6. Locates center of inlet septum and palpates from pump's outer perimeter toward center		
7. Inserts needle at a perpendicular angle and pushes needle through skin and self-sealing inlet		
8. Uses stopcock on fill set, holds 50 ml syringe barrel below level of pump and allows residual solution to drain out of pump chamber, notes amount returned and adds 1 ml for tubing		
9. Disconnects syringe containing residual and leaves fill set in place, closes stopcock and removes syringe barrel		
10. Attaches medication syringe and injects 5 ml of medication		
11. Releases pressure on plunger to allow small amount of medication to return to confirm needle is in correct position		
12. Continues injection of medication, stopping at least every 5 ml to check return flow until all medication is injected; closes clamp when administration is complete		
13. Stabilizes pump with one hand and removes needle with other hand; applies pressure over site with gauze for several minutes, applies dressing if necessary		
14. Documents in clinical record including amount of residual medication removed and daily volume of medication to be administered		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

IMPLANTED PORT, BLOOD DRAW THROUGH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. Accesses the port using a Huber needle and extension set		
4. Clamps extension set and removes injection cap		
5. Attaches empty 10 ml syringe and aspirates 3-5 ml of blood, clamps tubing, removes syringe and discards		
6. Attaches new syringe, unclamps tubing and withdraws prescribed amount of blood, clamps tubing		
7. Removes syringe and attaches prefilled injection cap. Unclamps catheter and flushes catheter with 10 ml preservative free saline		
8. Flushes with 3-5 ml of Heparin (100 u/ml); removes needle or attaches to infusion per orders		
9. Labels tubes, places in biohazard container with lab requisition		
10. Removes gloves and washes hands		
11. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

INTRADERMAL INJECTIONS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gather equipment and explain procedure to client		
2. Washes hands and prepares syringe with intradermal dose (usually less than .1ml		
3. Put on clean gloves		
4. Identify injection site and position arm on a flat surface		
5. Cleanses the area with alcohol swab cleansing in circular motion		
6. Removes needle cap from syringe and with bevel side up inserts needle slowly under first one to two layers of skin		
7. Slowly injects medication visualizing small white wheel at the injection site		
8. Withdraws needle and applies alcohol wipe to area		
9. Disposes of needle and syringe in sharps container		
10. Labels injection site		
11. Washes hands		
12. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

INTRAMUSCULAR INJECTIONS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies appropriate injection sites and acceptable amounts of inject per site based on age and size of individual client		
2. Gathers equipment and explains procedure to the client		
3. Puts on clean gloves		
4. Prepares medication using aseptic technique		
5. Prepares injection site using alcohol pad and cleansing in a circular motion rotating outward from the site		
6. Removes needle cap and positions needle at a 90-degree angle ***Infants needle at 45-degree angle pointed toward knee***		
7. Spreads skin of injection site taught injects needle at 90-degree angle; secure syringe and aspirate on plunger. If blood appears, withdraw the needle discard and begin again		
8. Slowly inject medication; withdraw needle and apply pressure with alcohol pad		
9. **Z-TRACK INJECTION:** Prepares using steps above		
a. When medication prepared, creates air lock by drawing up .2ml of air into syringe; changes needles		
b. Cleanses site; pulls the overlying skin and subcutaneous tissue approximately 1 to 1 ½ inches laterally to the side		
c. Hold skin taught and to the side and inject needle deep into the muscle		
d. Slowly inject medication		
e. Withdraw needle and cover site with alcohol pad; DOES NOT MASSAGE		
10. Disposes of waste, places needle and syringe into sharps container and washes hands		
11. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PERIPHERAL IV PLACEMENT

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. Using aseptic technique primes IV line with solution. If using an adapter plug or extension set, fills with Heparin		
4. Selects IV site, applies tourniquet, checks refill capacity of vein		
5. Cleanses site starting at the intended site and cleansing a diameter of 3-4 cm		
6. Stabilizes vein, and punctures vein with needle at 3—45 degree angle, observes for blood flow		
7. Once access achieved, lowers needle, releases tourniquet and advances the catheter		
8. Attaches injection cap and injects saline to ensure placement		
9. Secures cannula and applies transparent dressing		
10. Labels site with catheter gauge, date, time and initials		
11. Initiates infusion or flushes with Heparin		
12. Removes gloves, washes hands		
13. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

IV SITE DRESSING CHANGE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gather equipment, explain procedure		
2. Wash hands and put on gloves		
3. Cleanse area with antiseptic solution		
4. Apply antiseptic ointment to site per physician orders		
5. **Gauze Dressing:** Position sterile dressing		
6. Seal edges of dressing with tape; **change every 48 hours**		
7. Transparent Dressing:		
8. Cleanses per above protocol		
9. Positions dressing over site and smooth from center to edge		
10. Does not cover with gauze dressing		
11. Changes dressing if wet, loose, or if there is drainage		
12. Changes when peripheral site changed		
13. Disposes of waste		
14. Removes gloves and washes hands		
15. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

METERED DOSE INHALERS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Checks orders, gathers equipment and explains procedure to client		
2. Washes hands and assesses client respiratory pattern and breath sounds		
3. Explains steps for administering inhaled dose of medication		
4. Removes mouthpiece cover from the inhaler		
5. Shakes inhaler well for 2-5 seconds		
6. Holds the inhaler upside down and instructs client to place inhaler in mouth with opening toward back of throat and close lips tightly around mouth		
7. Instructs client to take deep breath and exhale completely		
8. With inhaler properly positioned, instructs client to hold inhaler with thumb at the mouth piece and index finger and middle finger at the top		
9. Instructs client to tilt head back slightly, inhale slowly and deeply through mouth while pushing down on medication canister		
10. Instructs client to hold breath for approximately 10 seconds and exhale slowly through nose or pursed lips		
11. Instructs client to wait 2-5 minutes between inhalations or as ordered by the physician		
12. After medication administered, assess respirations and breath sounds		
13. Dispose of waste, clean equipment and wash hands		
14. Document in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

NASOGASTRIC TUBE, INSERTION OF

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on clean gloves		
3. Positions client in sitting position with pillow behind head		
4. Measures distance to insert the tube by measuring from the tip of nose to earlobe and down to xyphoid process to sternum		
5. Cuts 10-inch piece of tape and split one end approximately two inches		
6. Lubricates catheter tip with water soluble lubricant		
7. Instructs client to hyperextend neck and inserts tube, passing along the floor of the nasal passage; aims downward and backward		
8. When tube reaches oropharynx, instructs client to flex head forward and to swallow; advances tube with each swallow		
9. Verifies tube placement by aspirating gastric contents		
10. Asks client to talk and hum (if tube is in lung will not be able to hum).		
11. After placement verified, anchors the tube by taping the tube to the nose and wrapping the split ends of tape around the tube		
12. Connects tube to suction or drainage per orders		
13. Removes gloves and disposes of supplies		
14. Washes hands		
15. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

NASOGASTRIC TUBE IRRIGATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on gloves		
3. Verifies tube placement		
4. Draws up 30 ml of normal saline in syringe, clamps connection tube and disconnects tubing		
5. Inserts tip of irrigating syringe into end of nasogastric tube and slowly injects saline; if resistance met, checks tubing and positions client		
6. After solution injected, pull back on syringe to aspirate fluid		
7. Measure the amount withdrawn and subtract from the amount injected		
8. Repeats procedure if there is no return		
9. Reconnect nasogastric tube to drainage or suction		
10. Disposes of supplies, removes gloves and washes hands		
11. Documents in clinical record		
12. Pediatric Considerations:		
a. Irrigation requires smaller volume of irrigating solution dependent on the size of the tube		
b. Gathers equipment and explains procedure to client		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

NASOPHARYNGEAL/NASOTRACHEAL SUCTIONING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and assesses the client's respiratory status		
3. Places client in semi-fowlers position if appropriate		
4. Turns on suction machine and checks the negative pressure settings		
5. Using sterile technique opens supplies and puts sterile water or saline into basin; puts on sterile gloves		
6. Attach suction catheter to tubing		
7. **Nasopharyngeal Suctioning: Insert catheter through nares approximately 16 cm. In adults, 8-12 cm in older children and 4-8 cm in young children or infants**		
8. Insert the catheter with thumb off of control; when catheter inserted to desired length, apply intermittent pressure and gently withdraw while rotating the catheter		
9. Places the catheter in basin of water and applies suction to rinse the catheter and tubing; encourage the client to cough		
10. **Nasotracheal Suctioning: Measurements are from nose tip to earlobe and downward to thyroid cartilage or neck; the distances are approx. 20-24 cm in adults, 14-20 cm in older children and 8-14 cm in young children**		
11. With suction off, insert catheter to desired length; when inserted to desired length or coughing stimulated, apply suction and withdraw catheter while gently rotating catheter; apply intermittent suction (10-12 seconds, then rinse catheter and repeat as needed (limit suction time to 3 to 5 minutes)		
12. Remove gloves and dispose of equipment		
13. Washes hands and reassesses respiratory status		
14. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

NURSING BAG TECHNIQUE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Bag is placed on clean surface		
2. Barrier is utilized as appropriate		
3. Bag is placed out of reach of children and animals		
4. Antiseptic no rinse gel or towelettes is available for handwashing if necessary		
5. Washes hands before entering the bag		
6. Equipment used is cleaned prior to returning to bag if appropriate		
7. Clean and dirty supplies are maintained separately		
8. Supplies are maintained in the bag and checked for expiration on a regular basis		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

OSTOMY CARE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Verifies the type of ostomy and type of bag/collection system to be used		
2. Gathers equipment and explains procedure to the client		
3. Washes hands and puts on clean gloves		
4. Removes used pouch and gently pushes skin away from the barrier; saves clamp on pouch		
5. Gently cleanses the stoma and surrounding skin using warm water and mild soap with care not to scrub or irritate the skin		
6. Dries skin thoroughly and assesses the stoma and surrounding skin		
7. Measures the stoma and cuts the appliance opening approx. 1/8 inch larger than the stoma; fold bottom of pouch and apply clamp		
8. Applies sealant wipe to skin around stoma and lets dry; applies barrier paste to appliance around opening		
9. Places barrier over stoma and presses down gently for 1-2 minutes		
10. If using two-piece pouch, peels off adhesive backing and smoothes onto skin; applies pouch and verifies placement		
11. Disposes of supplies and waste, removes gloves and washes hands		
12. Documents in clinical record		
13. **Pediatric Considerations for Ostomies:**		
a. Use equipment and supplies manufactured for pediatric clients		
b. Pouch skin barriers for children must be flexible to cover rounded abdomen and thin enough to avoid stool under skin barrier; may need to accommodate multiple stomas with one skin barrier		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

COLOSTOMY IRRIGATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands, positions client on toilet or next to toile; if unable to get out of bed, positions on side in bed		
3. Puts on gloves and removes pouch and appliance		
4. Cleanses and dries stoma site as per ***Ostomy Care***		
5. Removes gloves, washes hands, and puts on clean gloves		
6. Places irrigation sleeve over the stoma allowing tip of sleeve to rest in toilet or bedpan		
7. **For adult clients:** Fills irrigation bag with warm water (500cc) fills tubing and clamps tubing; hangs bag approx. 18 inches above stoma		
8. Lubricates tip and inserts slowly into stoma, opens clamp and allows to flow over 5-10 minutes; return flow drains through irrigation sleeve		
9. Allow 15-20 minutes for return		
10. Unclamps sleeve and removes any fecal material; removes sleeve		
11. Applies new appliance following Ostomy Care Procedure		
12. Cleans equipment and sleeve with liquid cleanser and cool water, hangs sleeve to dry		
13. Removes gloves, washes hands		
14. Documents in the clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

OXYGEN ADMINISTRATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies signs and symptoms of hypoxia and indications for treatment		
2. Obtains or checks physician orders to verify type of therapy, administration device, flow rate or concentration and laboratory monitoring needed		
3. Determines humidity requirements and gathers equipment and explains to the client		
4. Teaches or reviews oxygen safety precautions with the client and/or family/caregiver.		
5. **Nasal Cannula Administration:** • Assemble equipment • Places straight prongs into nares with the smooth side against skin. Curves prongs downward into nares • Places cannula tubing snugly around each ear and under chin Adjusts for comfort and pads tubing on face and ears as needed. • Assesses need for lubrication of nasal passages and uses only water-soluble products as indicated • Sets oxygen flow rate and turns on oxygen supply		
6. **Face Mask Administration:** • Selects mask that fits snugly and offers correct oxygen concentration • Places pads around mask if face lacks supporting tissue or is edematous; positions for comfort • Turns on oxygen flow to prescribed liter flow • Removes mask for meals • Monitors water level in humidifier if indicated • Changes mask and tubing per agency protocol		
7. **Pediatric Administration:** • Selects mask that covers child's mouth and nose, but not eyes • Instructs client and family and establishes baseline • Adjusts mask to fit snugly and secures with elastic strap • Observes closely for changes and anticipates that may be frightening to child; explains and demonstrates procedure.		

8. Cleaning and Disinfecting Equipment: • Rinses cannula or mask with water daily and dries with paper towel • Washes tubing and stores in clean plastic bag when not in use • Cleans compressor filter according to company guidelines • For continuous therapy, replace cannula, mask, tubing and/or catheter weekly • Soaks reusable equipment in disinfectant solution for 10 minutes after rinsing every 2 days; rinses well and dries • Cleans humidifier container weekly with mild soap and water		
9. Documents assessment findings and therapy administered in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PACEMAKER, MONITORING CLIENT WITH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Washes hands and explains procedure to client		
2. Counts pulse for one full minute		
3. Assesses for signs symptoms of dyspnea, dizziness, edema, changes in consciousness, fatigue, and decrease in blood pressure or pulse		
4. Monitoring Function via ECG Transmitter:		
a. Places and secures electrodes on client's wrist		
b. Turns on transmitter		
c. Positions telephone over output part of transmitter		
d. Listens for beep as heart sounds are transmitted		
e. Removes and stores equipment		
f. Contacts physician if any of above symptoms are noted		
g. Washes hands		
h. Documents in clinical record finding, pacemaker function, and reporting completed		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PHYSICAL ASSESSMENT

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Obtains a health history and follows up on abnormal findings		
2. Washes hands prior to client contact		
3. Explains procedure to the client		
4. Wears personal protective equipment as appropriate		
5. Completes physical assessment demonstrating correct techniques for inspection, palpation, percussion, auscultation		
6. Demonstrates good listening skills and communication skills by appropriate questioning and clarifying information		
7. Washes hands after client contact		
8. Accurately documents findings in the clinical record		
9. Verbalizes correct plan of action and notifies physician appropriately		
10. Obtains physician orders and communicates them in writing and verbally as appropriate		
11. Identifies need for referrals and demonstrates correct plan of action		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PERITONEAL DIALYSIS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Checks physician order for solution, additives, dwell time and number of exchanges		
2. Gathers equipment, supplies, and explains procedure to client		
3. Assesses client to establish baseline parameters (vital signs, weight, catheter site, and edema		
4. Washes hands and puts on gloves and mask		
5. Opens transfer set and connects one end to the fill tubing and one end to drainage. secures all clamps		
6. Opens clamps and primes tubing to remove air from system		
7. Connects the primed transfer set to client's access site. pens the drainage tubing clamp and allow abdominal contents to drain for 15 to 20 minutes		
8. Empties and measures the fluid in drainage bag		
9. Opens clamp on fill tubing and allows solution to infuse into abdomen per orders; clamps tubing and allows to dwell for prescribed time		
10. Repeats the cycles of drain, fill and dwell per orders		
11. Closes clamp to transfer set, caps off catheter with a sterile cap		
12. Inspects the catheter site. If dressing is applied, applies clear transparent, occlusive dressing		
13. Removes gloves, disposes of waste and washes hands		
14. Inspects drainage for clarity and presence of sediment or blood. Position client as needed to promote drainage		
15. Documents in clinical record assessment findings, teaching done, results of procedure and plan		
16. Identifies considerations for the client on peritoneal dialysis and importance of monitoring parameters		
17. Identifies signs of infection and precautions to avoid infections		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PULSE OXIMETERY

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Verbalizes and identifies assessment considerations in oximetry readings; identifies factors that can cause inaccurate results		
2. Uses appropriate sensor probes - designated for fingers, toes, and ear lobes		
3. Gathers equipment and explains procedure to client		
4. Washes hands		
5. Turns machine on and attaches sensor to the identified monitoring site; assures that sensor probes are aligned directly opposite each other		
6. Assesses for proper sensing of pulse and verify with client's actual pulse		
7. Read the saturation level on the digital read out monitor		
8. Evaluates finding with previous levels and clinical findings		
9. Removes sensor and turns off machine		
10. Washes hands		
11. Documents findings in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

SUBCUTANEOUS INJECTION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies acceptable volumes for subcutaneous injections		
2. Gathers equipment and explains procedures to client		
3. Selects appropriate injection site for type of medication		
4. Prepares medication using aseptic technique		
5. Cleanses the administration site with alcohol prep pad, starting at center and moving outward in circles		
6. Removes needle protector		
7. Pinches skin slightly with thumb and forefinger and inserts needle at a 45- to 90-degree angle (depending on amount of solution and length of needle)		
8. Using dominant hand pull back on the plunger to aspirate. If blood appears, withdraws needle, discards and begins again		
9. If no blood return, slowly inject medication		
10. Withdraws needle and covers site with alcohol pad		
11. Disposes of needle and syringe in sharps container taking care not to re-cap the needle		
12. Removes gloves and disposes of supplies		
13. Washes hands		
14. Documents in clinical record/medication sheet		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

SUPRAPUBIC CATHETER CARE AND MAINTENANCE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. **Site Care:** Removes old dressings and discard; changes gloves and inspects the stoma site, condition of skin, and patency of catheter		
4. Cleanses the stoma site using circular motion; uses soap and water or antiseptic agent as ordered		
5. Cleanses the catheter from distal to proximal end		
6. Applies dry dressing to site if needed		
7. **Catheter Change: Prepares site as above**		
8. Places waterproof pad under client, opens catheter kit and prepares sterile field; puts on sterile gloves		
9. Checks patency of indwelling catheter by injecting sterile saline into balloon and assesses catheter integrity, withdraws fluid and sets aside		
10. Drapes the client and cleanses around stoma with antiseptic solution using circular motions		
11. Withdraws fluid from indwelling catheter balloon, and removes catheter with non dominant hand		
12. Inserts new catheter using sterile technique with dominant hand; insert catheter at least 4 inches from the tip; stops inserting if resistance is met; inflates balloon with prescribed amount of fluid; attaches to closed drainage system, and places bag below level of bladder and checks to make sure there are no kinks		
13. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

SURGICAL STAPLE REMOVAL

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and prepares sterile field		
3. Puts on clean gloves		
4. Removes dressing from incision and disposes of dressing		
5. Inspects size and appearance of wound		
6. Puts on sterile gloves		
7. Cleanses incision with antiseptic swabs		
8. Places the lower tips of the staple extractor under the first staple		
9. Closes the handle and the lower tip of the staple extractor depresses the center of the staple		
10. Holding staple extractor securely moves the staple away from the incision site		
11. Releases the staple into the disposable bag by releasing the handle		
12. Repeats the procedure until all staples are removed		
13. Assesses incision site for open areas and places butterfly strips across the incision line as needed		
14. Applies dry dressing if needed		
15. Removes gloves, disposes of waste and washes hands		
16. Documents in the clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

TRANSDERMAL MEDICATIONS

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Prepares equipment and explains procedures to client		
2. Washes hands and puts on clean gloves		
3. Cleanses the affected area, removing all previous medications		
4. **Cream, Ointment, Oil Based Lotions:** Place prescribed dose in hands and apply evenly over skin surface		
5. **Anti-anginal Ointment:** Applies prescribed number of inches of medication to paper using the enclosed measuring guide; does not apply to hairy surfaces or over scars; holds sides of paper and places directly on the skin; dates and initials dose; secures in place with tape as needed; cleanses old application site.		
6. **Patch:** Assesses application sites avoiding areas that are hairy, oily or irritated; removes patch from protective covering and holds patch by edges; applies by firmly pressing patch into place; dates and initials the dose. Removes old patch, fold in half and discards		
7. **Aerosol Spray:** Shakes container to mix all contents and verifies direction for use; positions client so that face is turned away from the spray; sprays prescribed amount of medication evenly over affected area		
8. **Suspension Based Lotion:** Shakes container to mix well; applies small amount of lotion to gauze pad and applies to affected area by stroking evenly following hair growth; informs client that area will feel cool as medication dries		
9. **Powders:** Dries surface thoroughly. Separates any skin folds and creases; applies powder lightly in a dusting motion so that fine layer of powder covers site		
10. Removes gloves and disposes of supplies, washes hands		
11. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

TRACHEOSTOMY TUBE, CHANGING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on gloves.; suctions client per suctioning procedure using sterile technique if indicated		
3. Prepares new tracheostomy tube: a. Removes inner cannula from outer cannula and puts obturator in place b. Attaches syringe to the end of cuff (if cuffed tube) c. Inflate cuff to verify patency; withdraw air d. Lubricate end of tube e. Place new ties on one end of the tube		
4. Cuts existing tracheostomy ties and holds tube in place with non-dominant hand		
5. Picks up new tube in dominant hand		
6. Gently removes existing tube and inserts lubricated outer cannula with obturator into stoma. Inserts downward and inward		
7. Following insertion, removes obturator, inserts inner cannula and locks into place		
8. Secures tube in place with clean ties and dressing		
9. If the tube is cuffed, inflate after insertion with 5-10 ml of air		
10. Places stethoscope at side of neck just below chin while injecting air into the cuff; when air sound stops, a seal has been formed; checks cuff seal for leakage by feeling for air escaping at the site		
11. Disposes of waste and cleans reusable supplies; if trach tubes are reused, clean and boil for 10 minutes		
12. Remove gloves and washes hands		
13. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

TRACHEOSTOMY SUCTIONING

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gather equipment and explain procedure to client		
2. Assesses respiratory status, breath sounds and type of secretions		
3. Elevate head of bed		
4. Washes hands and puts on gloves. If sterile technique is indicated, gloves and supplies are sterile		
5. Attaches catheter to tubing, suction water through tubing, and lubricate tip of catheter.		
6. With thumb off control inset catheter approximately 5 inches into tracheostomy; applies intermittent suction by placing and removing thumb over control as catheter is withdrawn		
7. Instills 3-5 ml of sterile saline to liquefy secretions and suction returns		
8. Allow rest period 1-3 minutes between passes and repeat procedure until airway cleared		
9. Remove gloves and dispose of equipment per agency policy		
10. Wash hands		
11. Reassess respiratory status		
12. Document in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

TOTAL PARENTAL NUTRITION ADMINISTRATION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Reviews physician order for solution formula, additives and concentrations, volume to be infused, rate of administration and duration of therapy		
2. Checks solution label and inspects container for leaks, cracks or particulate matter, checks expiration date		
3. Removes solution from refrigerator so that it is administered at room temperature		
4. Gather equipment, explain procedure and wash hands		
5. Uses aseptic technique when adding medication to compounded solution		
6. Uses a .2 micron filter when setting up parenteral nutrition solution; **if lipids are mixed with solution use 1.2 micron filter**		
7. Connects tubing to bag and primes system, puts on infusion pump and sets rate and time of infusion		
8. Uses aseptic technique in accessing port or central line; tapes connections securely in place		
9. Infuses solution as ordered		
10. If infusion is intermittent, discontinues infusion at appointed time and flushes line with saline and Heparin as ordered		
11. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

URINARY CATHETER INSERTION

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and positions client, places pad under hips		
3. Puts on clean gloves and washes perineal area with soap and water, rinses and dries		
4. Removes gloves and washes hands		
5. Prepares sterile kit or individual supplies		
6. Put on sterile gloves, checks patency of catheter balloon by injecting saline, withdraw fluid and sets aside		
7. Pours antiseptic solution onto cotton balls, and lubricates catheter tip		
8. Drapes the client, maintaining sterile field		
9. Cleanses the urethral meatus		
10. **Female Client:** Keeps labia separated throughout procedure, instructs client to bear down and inserts catheter into meatus, advances until urine begins to flow—2-3 inches in adults, 1 inch in children		
11. **Male Client:** Lifts penis perpendicular to body, asks client to bear down gently, advances catheter until urine flows—approximately 7-9 inches in adult, 2-3 inches in children		
12. Collects specimen in sterile container as ordered		
13. **Straight catheter:** removes catheter after collecting urine		
14. **Indwelling catheter:** Attaches syringe to injection port and injects water to prescribed amount		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

URINARY DIVERSION, CARE OF CLIENT WITH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and positions client for easy access to stoma		
3. Prepares new pouch by cutting opening to size and removing backing as needed		
4. Puts on gloves and removes old pouch		
5. Cleanses area around stoma with soap and water and dries carefully. Inspects skin around stoma. Places dressing or wick in stoma to prevent leaking onto skin and preventing new pouch from adhering		
6. Applies skin barrier (wafer or liquid or paste)		
7. Removes gloves, washes hands and puts on new gloves		
8. Removes dressing on stoma and discards		
9. Places the appliance over the stoma, then applies the appliance belt insuring it is on the same level as the stoma		
10. **For a Continent Diversion:**		
a. Inserts catheter into the stoma and allows urine to drain into container. Cleanses skin around area and applies dressing		
b. Disposes of waste, removes gloves and washes hands		
c. Documents findings, teaching and care coordination with skin care professionals		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

VENTILATOR, MANAGEMENT OF CLIENT WITH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
At the beginning of shift and at regular intervals:		
1. Assesses vital signs, respiratory effort, color, anxiety level, sleep patterns, skin condition, fluid status, neuro status, and signs of infection		
2. Assess oximeter readings as ordered		
3. Verifies ventilator settings and effectiveness of Plan of Care		
4. Performs safety check on equipment including: tubing connections, leaks or cracks in tubing, presence of water in tubing, alarm settings, oxygen settings and oxygen source.		
5. Assesses the mode of delivery and effectiveness of delivery mode		
6. Determine that manual ventilation method is available in the event that power fails		
7. Assesses lung sounds and effectiveness of ventilation		
8. Suction and repositions as necessary to assure effective ventilation		
9. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

VENTILATION, MANUAL BAG WITH

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Wash hands and explains procedure to client		
2. Connects to oxygen source by attaching one end of tubing to flow meter adapter and one end to ambu bag		
3. If client has a tracheostomy, suctions client before connecting bag to the trach tube		
4. If client does not have a tracheostomy, places mask over nose and mouth and uses dominant hand to compress the ambu bag		
5. Slowly compresses the bag every 5 seconds and allows for passive exhalation and re-expansion; observes chest rise and fall to determine the effectiveness of manual ventilation		
6. Observes client color and comfort level and presence of abdominal distention to assess effectiveness of ventilation		
7. In emergency situation, calls 911 before beginning manual ventilation		
8. Continue until alternate ventilator source available or client is able to breath without assistance		
9. Document procedure and circumstances precipitating use, client condition and response to treatment		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

VENIPUNCTURE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure		
2. Washes hands and puts on gloves		
3. Applies tourniquet, selects vein and cleanses site working outward from the site.		
4. Syringe and Needle Method:		
a. Holds syringe and needle at 5- to 30-degree angle		
b. Inserts needle and checks for blood return		
c. Withdraws blood into syringe, releases tourniquet		
d. Cove site with gauze sponge, withdraws needle and applies pressure		
5. Vacutainer Method:		
a. Follows steps 1-3 as above		
b. Attaches needle to vacutainer and inserts blood tube into the holder		
c. Holds vacutainer with needle at 15- to 30-degree angle, inserts needle, advances blood tube onto the needle of holder		
d. Holds vacutainer, removes filled tube, inserts new tubes as needed; after the last tube is filled, removes tourniquet		
e. Places gauze pad over site, removes needle and applies pressure		
f. Labels blood tubes, places in biohazard bag with lab request and into transport container		
6. Disposes of sharps in accordance with policy		
7. Documents in clinical record as appropriate		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

WET TO DRY DRESSING CHANGES

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers supplies and explains procedure to client		
2. Positions client for comfort and easy access to wound		
3. Washes hands and puts on clean gloves		
4. Removes old dressings; applies small amounts of sterile saline or water to loosen dressing that are stuck to wound; disposes of dressings into disposal bag.		
5. Observes appearance of wound and amount of drainage		
6. Changes gloves, sterile gloves if aseptic technique		
7. Assess size of wound and characteristics and type of drainage		
8. Cleanses wound with prescribed solution and gauze sponges; cleanses from least contaminated to most contaminated areas		
9. Place moistened gauze pads over the top of wounds; if the wound is deep, uses forceps to ensure that all surfaces are covered with moistened dressing.		
10. Applies dry dressings over wet gauze and covers with ABD pad		
11. Secures with tape, ties or binder		
12. Removes gloves and disposes of waste; washes hands		
13. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

WOUND/DRAIN MANAGEMENT

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Gathers equipment and explains procedure to client		
2. Washes hands and puts on gloves		
3. Removes dressing and disposes of waste in disposable bag		
4. Changes gloves		
5. Inspects the drain insertion site for redness, drainage and/or pain		
6. Cleanses with antiseptic solution as ordered beginning at drain site and moving outward		
7. Places gauze dressing around drain insertion site		
8. Covers exposed drain with gauze dressings and secure		
9. **Hemovac Drain:** Opens outlet on drain, empties drain by squeezing gently until all drainage has been emptied; compresses the hemovac flat and replaces the stopper to maintain suction; records drainage amount		
10. **Jackson Pratt (Bulb Drain):** Opens spout on drain bulb and empties the drainage by squeezing the bulb until fluid removed; compresses the bulb in palm of hand and closes the drainage spout; release bulb and pressure is maintained		
11. Measures and records drainage amount. Disposes of waste, removes gloves and washes hands		
12. Documents in clinical record		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

PRESSURE ULCER MEASUREMENT/STAGING/CARE

COMPETENCY EVALUATION

NAME: _____

PERFORMANCE CRITERIA	DATE COMPETENCY EVALUATED	METHOD USED (OBSERVATION, SIMULATION, CHART AUDIT, OR TESTING)
1. Identifies by characteristics the 4 stages of pressure ulcer:		
a. Stage 1: Non-blanchable redness of intact skin or in darker skin warmth, swelling or induration		
b. Stage 2: Partial thickness skin loss; superficial damage characterized by redness, edema, excoriation or blisters		
c. Stage 3: Full thickness loss with damage to subcutaneous tissue; extends down to but not through underlying fascia. Serosanguinous drainage; may be deep with tunneling		
d. Stage 4: Full thickness skin loss; tissue necrosis, destruction of deeper tissues into muscle mass and bone; ulcer edge appears to "roll over".		
2. Wound Measurement and Care		
a. Gathers equipment and explains procedure		
b. Washes hands and puts on gloves		
c. Removes old dressing and discards		
d. Notes odor, drainage, color and size of wound		
e. Puts on clean gloves		
f. Measures the perimeter of wound with disposable tape measure		
g. Irrigates wound to remove necrotic tissue and decrease the presence of bacteria in the wound		
h. Assess for tunneling by inserting sterile swab into wound and measuring length of tunneling		
i. Cleanses the wound bed, using sterile saline or prescribed solution; notes condition of wound bed and if there is adhering necrotic tissue		
j. Applies topical dressing per orders and condition of wound		
k. Secures dressing in place, disposes of waste, and removes gloves		
l. Washes hands.		

3. Documents in clinical record as appropriate:		
a. Date and time of treatment		
b. Specific treatment		
c. Location, stage and size of wound		
d. Color and appearance of wound bed and drainage		
e. Type of dressing applied		
f. Changes in condition, client complaints and symptoms		
g. Teaching completed		
h. Preventive measures taken		
i. Client response and Physician notification		
j. Ongoing plan		
Additional Comments:		

Signature/Title of Evaluator:_____ Date: _____

GLOSSARY

Abduction: Movement of an extremity away from midline of the body.

Adduction: Movement of an extremity toward midline of body.

AICD (Automatic Implantable Cardioverter Defibrillator): A surgically implanted device that continuously monitors the heart and delivers an electrical shock to terminate lethal dysrhythmias.

Air Embolus: Quantity of air that circulates in the blood stream to eventually lodge in the blood vessel.

Allen Test: Test to assess perfusion through radial and ulnar arteries.

Ambu-bag: Portable resuscitator device that provides manual inflation of the lungs.

Ampule: Small sterile glass or plastic container that usually contains a single dose of solution to be administered parenterally.

Anoxia: Abnormal condition characterized by a lack of oxygen.

Ascites: Effusion and accumulation of serous fluid in the abdominal cavity.

Aseptic: Technique Measures used during client care to prevent microbial contamination. They can be either clean (medical asepsis) of sterile (surgical asepsis) techniques.

Autonomic Dysreflexia: An abnormal sympathetic response in clients with spinal cord lesions at C6 or above, often precipitated by bowel/bladder distension leading to a hypertensive crisis, relieved by removal of the causing factors.

Bacteriostatic: Inhibits the development of bacteria.

BiPap: Bilevel positive airway pressure. Form of non-invasive mechanical pressure support ventilation that uses a time cycled or flow cycled change between two different applied levels of positive airway pressure.

Bolus: An amount of fluid or medication administered intermittently or as an addition to the maintenance dose or requirements.

Bolus Feeding: Administration of an ordered amount of feeding formula by gravity via a feeding tube over 5-15-minute duration.

Catheter Hub: Plastic threaded connection at the end of an intravenous catheter.

Catheterization: Introduction of a rubber or plastic tube through the urethra and into the bladder.

Central Venous Catheter: A catheter introduced through a large peripheral vein, jugular, or subclavian vein and advanced to the superior vena cava for the purpose of administering parenteral fluids.

Chest Drainage System: A system that removes air, fluid, or blood from the Intrapleural space using water seal, gravity, and suction collection chambers to restore negative pressure.

Chest Physiotherapy: Physical maneuvers, including postural drainage, chest percussion, and vibration, rib shaking, and coughing to improve airway mucus clearance in clients with retained tracheobronchial secretions.

Circumduction: Circular movement of a limb. The movement of the head of a bone within an articulating cavity, such as the hip joint.

Conjunctiva: Mucous membrane lining the inner surface of the eyelids and anterior part of the sclera.

Continent Ostomy or Diversion: Surgical procedure that leaves the client with an internal pouch where either stool or urine is temporarily stored and the effluent is removed by intubations through the external stoma. It is continent because the effluent does not drain spontaneously from the stoma; instead a catheter must be inserted through the stoma to drain the internal pouch.

Continuous Ambulatory Peritoneal Dialysis (CAPD): The process of instilling dialysate into the peritoneal cavity four times per day with dwell times of 4-10 hours.

Continuous Positive Airway Pressure (CPAP): Form of positive airway pressure ventilator which applies mild air pressure on a continuous basis to keep airway open in people who are able to breathe spontaneously on their own.

Culture: Laboratory test involving the cultivation of microorganisms or cells in a special growth medium.

Cyanosis: Bluish discoloration of the skin and mucous membranes caused by an excess of deoxygenated hemoglobin in the blood.

Debridement: The removal of necrotic tissue from a wound surgically or with the use of an enzymatic topical agent.

Diastolic Pressure: Lower blood pressure measurement that reflects pressure within the arterial septum during the period of ventricular relaxation (diastole).

Dementia: A term used to describe a group of symptoms related to a loss or impairment of mental powers. These symptoms appear in a person who is awake and are demonstrated by symptoms of mental confusion, memory loss, disorientation, intellectual impairment or similar problems.

Dysrhythmia: An irregularity or deviation from the normal pattern of the heartbeat.

Don: To put on, as in to don gloves.

Dwell Time: The time dialysate remains in the peritoneal cavity to permit the processes of osmosis and diffusion to occur.

Dyspnea: Difficulty breathing.

Edema: Abnormal accumulation of fluid in interstitial spaces of tissues.

Embolus: A foreign object. A quantity of air or gas, piece of tissue or tumor that circulates in the bloodstream until it lodges in a vessel.

Enema: Procedure involving the introduction of a solution into the rectum for cleansing or therapeutic purposes.

Enteral Nutrition: Administration of nutrition via the gastrointestinal tract.

Epidural Catheter: An intraspinal catheter surgically placed in the epidural space for the administration of medication.

Eschar: The necrotic blackened tissue covering a wound.

Extension: Movement increasing the angle between two adjoining bones.

Extravasation: Inadvertent infiltration of intravenous fluids or medications into the subcutaneous tissues surrounding the infusion site.

Exudate: Fluid that has been extruded from a tissue or its capillaries, more specifically because of injury or inflammation. It is characteristically high in protein and white blood cells.

Flexion: Movement decreasing the angle between two adjoining bones, bending the line.

Fowler's Position: Posture assumed when the head of bed is raised 45 to 90 degrees.

Gastrostomy Feeding Tube: Long, hollow flexible tube inserted into the stomach through a stab wound in the upper left abdominal quadrant.

Granulation Tissue: Pink healing tissue formed in response to a deep wound injury to bring about wound closure

Hematoma: A collection of blood in a body cavity, tissue or organ secondary to leakage from a vascular wall.

Hemiparesis: Muscular weakness of one half of the body.

Hemiplegia: Paralysis of one side of the body.

Hoyer Lift: Mechanical device that uses a canvas sling to easily lift dependent clients for transferring.

Huber Needle: A curved beveled needle used to access implanted ports designed to prevent coring of the silicone port septum.

Hydrocolloid Dressing: An occlusive dressing which forms a protective cover over the wound site, interacting with the wound exudate to maintain a moist environment for wound healing.

Hyperextension: Movement of a body part beyond its normal resting extended position.

Hypoxia: Insufficient oxygen available to meet the metabolic needs of tissues and cells.

Ileal Conduit: Surgical creation of an artificial urinary bladder that drains urine via a stoma opening onto the abdomen

Ileostomy: Surgical formation of an opening of the ileum onto the surface of the abdomen through which fecal matter is emptied.

Impaction: Presence of a large or hard fecal mass in the rectum or colon.

Implanted Infusion Port: A self-sealing silicone septum encased in a metal or plastic case with an attached catheter threaded into a large vein.

Injection: Act of forcing a liquid into the body by means of a syringe.

Injection Cap: A rubber diaphragm covering a plastic cap which permits needle insertion into a catheter or vial.

Intradermal Injection: Injection in which solution is introduced into the dermal skin layer.

Intramuscular Injection: Injection in which solution is introduced into the body of a muscle.

Intravenous Injection: Solution is introduced into a vein.

Irrigate: To flush with a fluid, usually with a slow, steady pressure on a syringe plunger. Done to cleanse a wound or clear tubing.

Ischemia: Decreased blood flow via a blood vessel to a body part secondary to altered perfusion.

Laryngospasm: Spasm of the muscles surrounding the larynx causing airway narrowing and stridorous breathing.

Latex Allergic Reaction: Response to products containing latex. Can present as contact dermatitis, allergic rhinitis, or immediate life-threatening reactions leading to urticaria, bronchospasm, edema etc.

Maceration: Skin that becomes abnormally soft and breaks down because of prolonged exposure to moisture.

Medical Asepsis (Clean Technique): Procedure used to reduce the number of microorganisms and prevent their spread, e.g., hand washing and the use of clean supplies and equipment.

Mental Status Examination: An assessment of a client's orientation, thinking, judgment, and mood using a series of structured questions.

Metered Dose Inhaler (MDI): Device designed to deliver a measured dose of an inhalation drug.

Microorganism: Any microscopic entity capable of sustaining living processes such as bacteria, virus, and fungi.

Nasal Cannula: A device for delivering oxygen by way of two short tubes that are inserted into the nares.

Nasal Catheter: A flexible, small bore tube inserted into the oropharynx by way of the nose.

Nasogastric Feeding Tube: A small tube passed through the nares into the stomach.

Nasointestinal Feeding Tube: A tungsten-weighted tube inserted through the nares to allow natural peristaltic movement of the tube through the pyloric sphincter into the duodenum or jejunum.

Nebulization: Vaporization or disbursements of liquid in a fine spray.

Neurogenic Bladder: Loss of voluntary and reflex innervation to the urinary bladder resulting in over distention.

Neurogenic Bowel: Loss of voluntary and relax innervation to the bowel resulting in indiscriminate bowel emptying.

OD: Abbreviation for oculus dextra, a Latin phrase for *right eye.*

OS: Abbreviation for oculus sinister, a Latin phrase for *left eye*.

OU: Abbreviation for oculus uterque, meaning each eye or *both eyes.*

Occult Blood: Blood that appears from a nonspecific source with obscure signs and symptoms. May be detected by a chemical test or microscopic examination.

Oil Retention Enema: An enema containing a small volume (200-250 ml) of an oil-based solution used to soften fecal mass.

Orthopnea: Abnormal condition in which a person must sit or stand to breathe comfortably.

Orthostatic Hypotension: Abnormally low blood pressure occurring when a person stands up.

Outcome Assessment Information Set (OASIS): A series of standardized risk-adjusted client outcome measures; required to be completed for all skilled Medicare or Medicaid clients in a Medicare-certified agency.

Oxygen Mask: A flexible mask that fits snugly and securely over the client's nose and mouth for the delivery of oxygen.

Pain Intensity: The degree or extent of pain perceived by an individual

Pain Threshold: Amount of pain stimulus required to produce a physical or psychological response.

Pain Tolerance: Point at which a person is not willing to accept pain of greater severity or duration.

Parenteral Nutrition: Administration of nutrition into the vascular system.

Passive Range of Motion: Exercises of the joints performed for an individual by someone else.

Pathogen: Any microorganism capable of producing disease.

Patient Controlled Analgesia (PCA): An infusion system that permits the patient to self-administer pain medication.

Pearson's Attachment: The support used under the leg in balanced suspension skeletal traction.

Pelvic Belt: Girdle shaped cotton belt or support that fits around the hips, lumbosacral area, and abdomen for attaching ropes and weights in pelvic traction.

Percutaneous Endoscopic Gastrostomy (PEG): An implanted feeding tube placed via a small opening into the stomach.

Peripherally Inserted Central Catheter (PICC): A peripherally inserted catheter that extends into the superior vena cava or right atrium.

Peritoneal Dialysis: The process of removing metabolic waste products and fluid from the body by instilling into and draining a dialysate solution from the peritoneal cavity.

Perrla: Acronym for *Pupils are equal, round, reactive to light, accommodative.* Recorded if pupil assessment is normal.

Personal Protective Equipment: Protective gear worn to reduce risk of exposure to health care workers.

Phlebitis: Inflammation of a vein.

Plantar Flexion: Flexion of the foot and toes toward the sole.

Postural Drainage: Gravitational clearance of airway secretions by assumption of one or more of 10 different body positions for 5 to 15 minutes each. Each posture corresponds to specific segments of bronchi in the lung.

Pronation: Movement of a body part so the front or ventral surface faces down.

Pulse Oximetry: A noninvasive method of measuring arterial oxygen saturation expressed as SaO2, normal is 95-100.

Residual Urine: Volume of urine remaining in the bladder after a normal voiding, normally a very small amount.

Right Atrial Catheter: An indwelling intravenous catheter inserted centrally or peripherally and threaded into the superior vena cava or right atrium.

Sepsis: Infection, contamination. Life-threatening condition that arises when the body's response to infection injures its own tissues and organs.

Sharps Container: A puncture proof container that is used for the disposal of any used sharp items such as needles, disposable scissors and scalpels.

Skin Barrier: An artificial layer of skin made of plastic or vinyl-like material applied to skin before applying tape or ostomy drainage bags. Protects the skin from irritation.

Sterilization: Process by which microorganisms are killed.

Stoma: A surgically created opening between a body cavity and the body's surface, such as a colostomy.

Subcutaneous Injection: Form of injection where fluid is introduced into subcutaneous tissue.

Suction: Act of sucking up a substance by reducing air pressure over its surface.

Suction Catheter: A thin plastic or rubber tube used to remove secretions.

Surgical Asepsis (Sterile Technique): Procedure used to eliminate microorganisms an area, e.g., the use of sterile instruments and supplies.

Systolic Pressure: Higher blood pressure measurement. Reflects pressure within the arterial system during a period of ventricular contraction (systole).

Telemetry: A monitoring system which uses telecommunication technology to transmit electrical signals from a device to a remote site.

TENS: Transcutaneous electrical nerve stimulation. A mild electrical stimulation that interferes with the transmission of painful stimuli.

Traction: Force or pull applied to limbs, bones or other tissues to pull the tissues apart, often for realignment.

Tracheostomy: Surgical formation of an opening into the trachea to allow the passage of air.

Transdermal: A form of medication applied to the skin's surface and absorbed across the dermal or outer skin layer.

Transtracheal Oxygen: Method of delivering oxygen directly into the trachea by way of a catheter placed in the tracheal stoma.

UNNA Boot: Compression dressing made by wrapping layers of gauze around leg and foot. Layers of gauze are soaked in medications/lotions to promote healing and apply pressure to decrease edema.

Ureterostomy: An ostomy site in which one or both ureters are surgically brought to the abdominal surface for the excretion of urine.

Urinary Diversion: A surgical procedure in which the ureters are removed from the bladder and surgically anastomosed directly to the skin or to either a conduit or internal pouch made of bowel with the other end brought out onto the client's skin as a stoma so that the urine can exit the body.

Venipuncture: Technique in which a vein is punctured transcutaneously by a sharp, rigid stylet, a cannula, or a needle attached to a syringe.

WOCN: Wound, Ostomy Continence Nurse.

Z-Track: Method for injecting irritating preparations into the muscle without tracking residual medication through sensitive tissues.